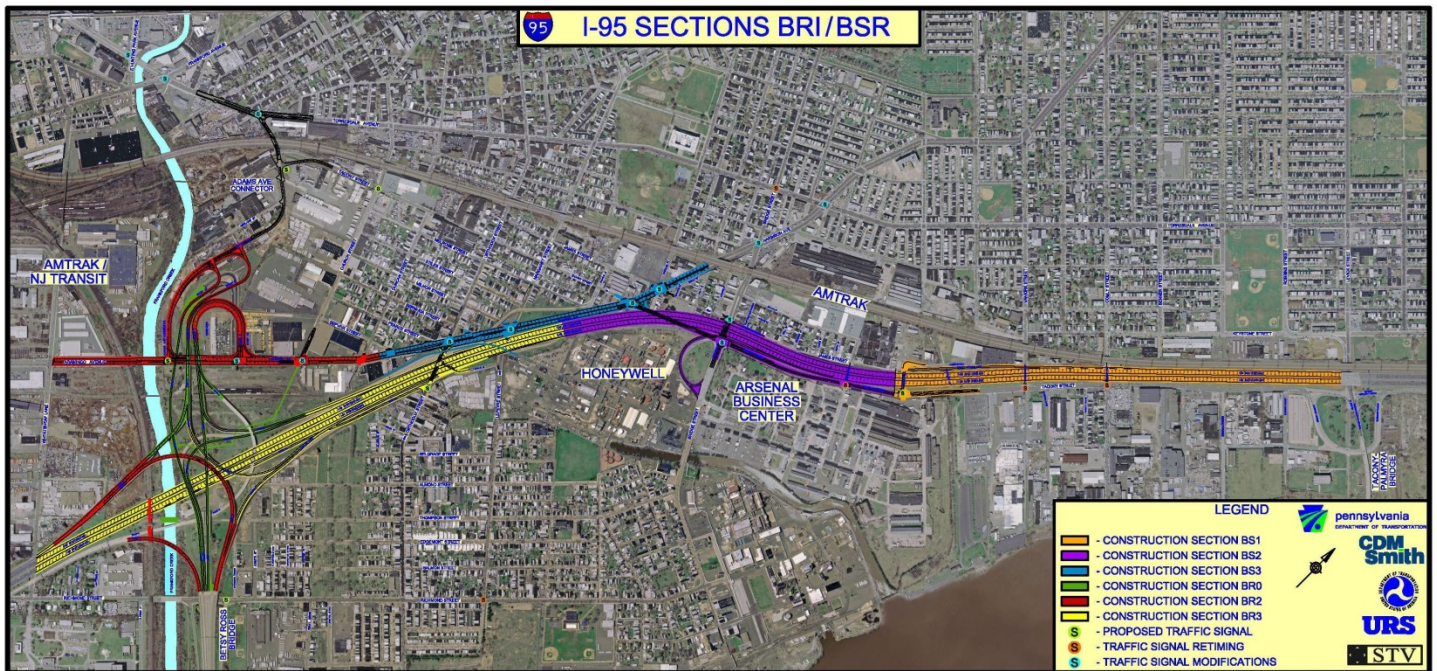


Initial Financial Plan



I-95 Betsy Ross Interchange (BRI) and Bridge Street Ramps (BSR) Project

Philadelphia, Pennsylvania

PA Department of Transportation District 6-0

July 2014

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Executive Summary – Plan Overview

The I-95 Betsy Ross Bridge Interchange and the Bridge Street Ramps Projects are two of five active Corridor Improvement Projects along I-95 in the Commonwealth of Pennsylvania. The Project involves the complete reconstruction of 2.5 miles of I-95 in the City of Philadelphia, with widening from three lanes in each direction to four lanes in each direction. The Project includes the reconstruction of City streets along the mainline, reconstruction of major interchanges, new bridges over and on I-95, and a new drainage system.

On July 2014, the Point-of-Access Study was approved by the Federal Highway Administration (FHWA), which identified the preferred alternative in the Study as the selected alternative (see Figure ES-1 on page 2). The construction schedule for the Project as currently envisioned will span approximately 12 years.

Project Plan Sponsor, Partners, and Management

The Project Sponsors are the FHWA, the Pennsylvania Department of Transportation (PennDOT), and the City of Philadelphia. The overall management of the Project will be the responsibility of PennDOT.

Initial Financial Plan Summary

This document is the Project's Initial Financial Plan (IFP). It is submitted by PennDOT, as required by Section 106 of Title 23 of the United States Code, and is consistent with guidance issued by FHWA. The IFP provides detailed cost estimates to complete the Project, as well as estimates of financial resources to fund the individual construction segments of the Project.

This IFP demonstrates PennDOT's commitment to complete the Project, and for sound financial planning for Major Projects as defined by Section 106 of Title 23 and modified by Section 1305 (b) of the Transportation Equity Act for the 21st Century (TEA-21), Section 1904 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), and Moving Ahead for Progress in the 21st Century Act (MAP-21) Public Law 112-141.

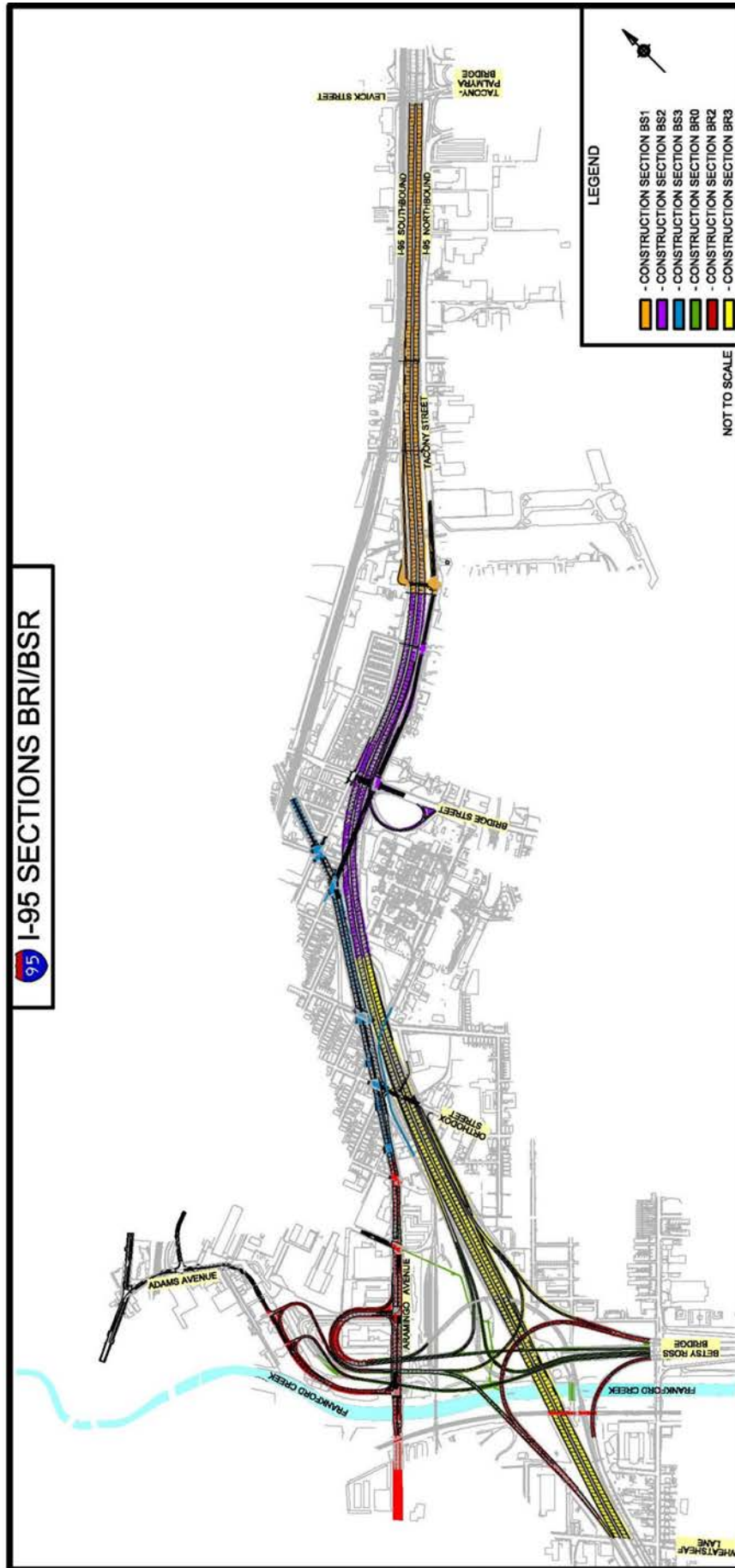


Figure ES-1: Project Map

A final report entitled “**I-95 Betsy Ross Interchange & Bridge Street Ramps Project**,” an FHWA cost estimate review, is used as a basis to develop this financial plan. The report is in Appendix B.

Within the IFP, the following topics are addressed (by chapter):

- **Chapter 1. Narrative Description** – This chapter provides an overview of the Project and the individual segments that together make up the Project; describes the management plan; and provides a history of the Project to date, including a review of the status of all ongoing activities.
- **Chapter 2. Schedule** – This chapter provides information on the planned schedule for implementation of all the Project elements. It also provides information regarding the assignment of implementation responsibilities and provides a summary of the status of necessary permits and approvals.

Based on the current planned project delivery approach, the Project is scheduled to be constructed in six construction packages (or segments) over a 12-year build out period to construction completion. Scheduled first is Segment BR0, followed by BS1, BS2, BS3, BR2, and BR3. The Project is scheduled to be physically completed by the conclusion of Federal FY 2026, as shown in the table on the next page.

Table ES-1: Project Schedule Overview

Segment	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025-26
BR0	Design Start: 10/2011, Finish 7/2014														
		ROW/Utilities Start: 9/2012, Finish: 8/2014													
				Construction Start: 11/2014, Finish: 11/2017											
BR2			Design Start: 1/2013, Finish: 12/2019												
					ROW/Utilities Start: 9/2015, Finish: 8/2017										
											Construction Start: 2/2021, Finish: 2/2025				
BR3					Design Start: 9/2015, Finish: 12/2019										
					ROW/Utilities Start: 9/2015, Finish 8/2017										
											Construction Start: 8/2021, Finish: 9/2026				
BS1			Design Start: 10/2013, Finish: 9/2015												
			ROW/Utilities Start: 11/2013, Finish: 10/2015												
						Construction Start: 1/2016, Finish: 11/2018									
BS2			Design Start: 10/2013, Finish: 9/2016												
		ROW/Utilities Start: 11/2012, Finish: 10/2015													
							Construction Start: 1/2017, Finish: 11/2019								
BS3						Design Start: 9/2016, Finish: 9/2019									
		ROW/Utilities Start: 11/2012, Finish: 10/2015													
										Construction Start: 1/2020, Finish: 11/2021					

- **Chapter 3. Project Cost Estimate** – This chapter provides a detailed description of the cost elements of the Project and provides current estimates of those costs. It also summarizes the costs incurred to date and provides detail on key cost-related assumptions.

The current cost estimate is based on the Federal Fiscal Year (FY) 2014. The Federal FY is based on the period of October 1 through September 30.

The total baseline estimated cost for the Project is \$1,167.0 million in FY 2014 dollars. The projected year of expenditure cost (YOE), inflated to year of letting, is \$1,411.1 million. The YOE estimate reflects the current project schedule and reasonable assumptions for future inflation. PennDOT will continue to monitor and adjust the cost estimate based on new project-specific information, as well as information on economic conditions that will affect project costs. For purposes of this Financial Plan, unless otherwise noted, the YOE estimate is calculated to the mid-point of construction for all contract lettings.

Table ES-2 and Figure ES-2 provide an overview of the Project costs. These costs are presented in YOE dollars based on the current project schedule, current cost estimates, and reasonable estimates of inflation.

For purposes of this Financial Plan, the Project has been broken into six segments. Segments represent how the project will be packaged for construction contracts or lettings, to represent the logical breaks in the construction schedule, or to reflect how the project has been grouped together by physical location, or by like elements. The segments for this Project are the Betsy Ross Bridge Ramps, Segment BR0, Segment BR2, and Segment BR3, and the Bridge Street Ramps, Segment BS1, Segment BS2, and Segment BS3.

Table ES-2: Project Cost Estimate, by Segment (YOE dollars, in millions)

Project Segment	Total Project Cost
BR0	\$196.3
BR2	\$387.6
BR3	\$469.8
BS1	\$109.0
BS2	\$196.4
BS3	\$52.0
Total (YOE) = \$1,411.1	

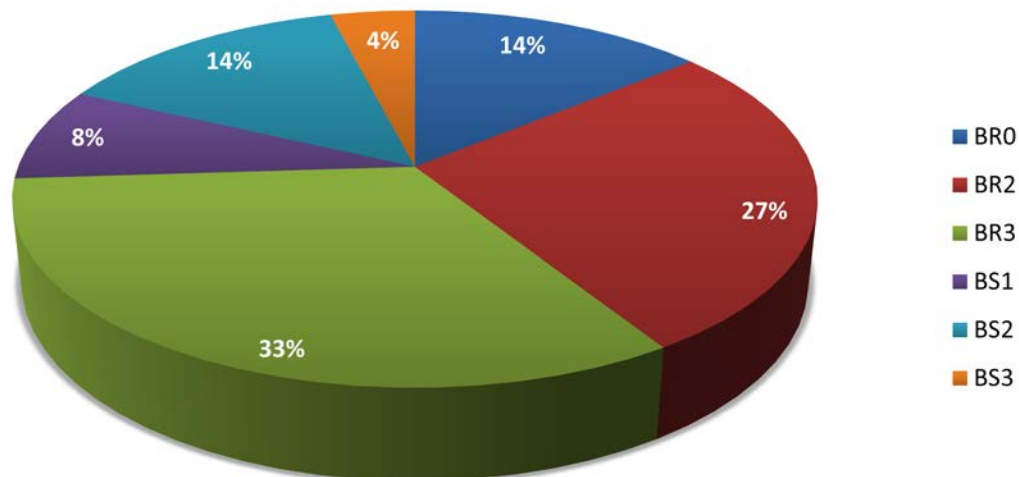


Figure ES-2: Project Cost Breakdown by Segment (YOE dollars, in millions)

This chapter provides information on the planned schedule for implementation of all the Project elements. It also provides information regarding the assignment of implementation responsibilities and provides a summary of the status of necessary permits and approvals.

Based on the current planned project delivery approach, the Project is scheduled to be constructed in six construction packages over a 12-year build-out period to construction completion. Scheduled first is the Betsy Ross Bridge Ramps, Segment BR0, followed by

Segment BS1, then Segment BS2, then Segment BS3, and finally Segments BR2 and BR3. The Project is scheduled to be physically completed by the conclusion of Federal FY 2026. (See Appendix D for a detailed project schedule).

- **Chapter 4. Project Funding** – This chapter reviews PennDOT’s overall plan of finance for the Project, describes in detail the planned sources of funds, and reviews the funding plan in the context of the State’s overall transportation program and available resources. The planned sources of funds in this chapter are shown in year of obligation. Obligated funds are funds that have been authorized by a form D-4232 signed by the FHWA.

Programmed funds are financially committed through the planning process and are included in long range planning documents. Commitments for programmed funding are documented by the PennDOT Interstate and Delaware Valley Regional Planning Commission (DVRPC) Transportation Improvement Plans (TIPs/STIPs), PennDOT Twelve Year Plan (TYP), and the fiscally constrained Long Range Transportation Plan (LRTP).

The BR0, BR2, BR3, BS1, and BS2 segments are contained on the Interstate TIP. The BS3 Segment, because it is primarily improvements to surface arterials/streets, will be contained on the DVRPC TIP. All of the segments are fully funded on the fiscally constrained LRTP.

Excerpts from the TIP/STIP, TYP and the LRTP showing the Project funding are contained in Appendix A. Adoption of the TIP/STIP, TYP, and LRTP is scheduled for September 2014.

The funds for the TIP/STIP, TYP, and LRTP are Federal National Highway Performance Program and State Transportation Funds. There is no local match funding for the Project.

Table ES-3: Summary Project Funding by Source

Funding Source	Obligated to Date	Expended	Balance of Obligated	Programmed	Total
Federal					
Formula Funds (by category)					
Previous Programs (BON, IM, Earmark)	\$70,946,001	\$40,177,616	\$30,768,385	-	\$70,946,001
National Highway Performance Program	\$19,512,000	\$0	\$19,512,000	\$1,164,519,423	\$1,184,031,423
SUBTOTAL – Federal	\$90,458,001	\$40,177,616	\$50,280,385	\$1,164,519,423	\$1,254,977,423
State					
State Match on Federal Funds	\$16,137,000	\$7,152,553	\$8,984,447	\$133,995,101	\$150,132,101
100% State Funds	\$5,952,406	\$5,919,987	\$32,419	-	\$5,952,406
SUBTOTAL – State	\$22,089,406	\$13,072,540	\$9,016,866	\$133,995,101	\$156,084,507
GRAND TOTAL	\$112,547,407	\$53,250,156	\$59,297,251	\$1,298,514,523	\$1,411,061,930

- **Chapter 5. Financing Issues** – Financing (e.g. borrowing funds by issuing bonds) is not planned for this project.
- **Chapter 6. Project Cash Flow** – This chapter provides a summary of the annual cash flow needs for the Project. Project cash needs are shown by year in Figure ES-3. The planned sources and uses of funds at the summary level are shown in Figure ES-4 and Figure ES-5. Chapter 6 discusses cash flow and sources and uses in detail.

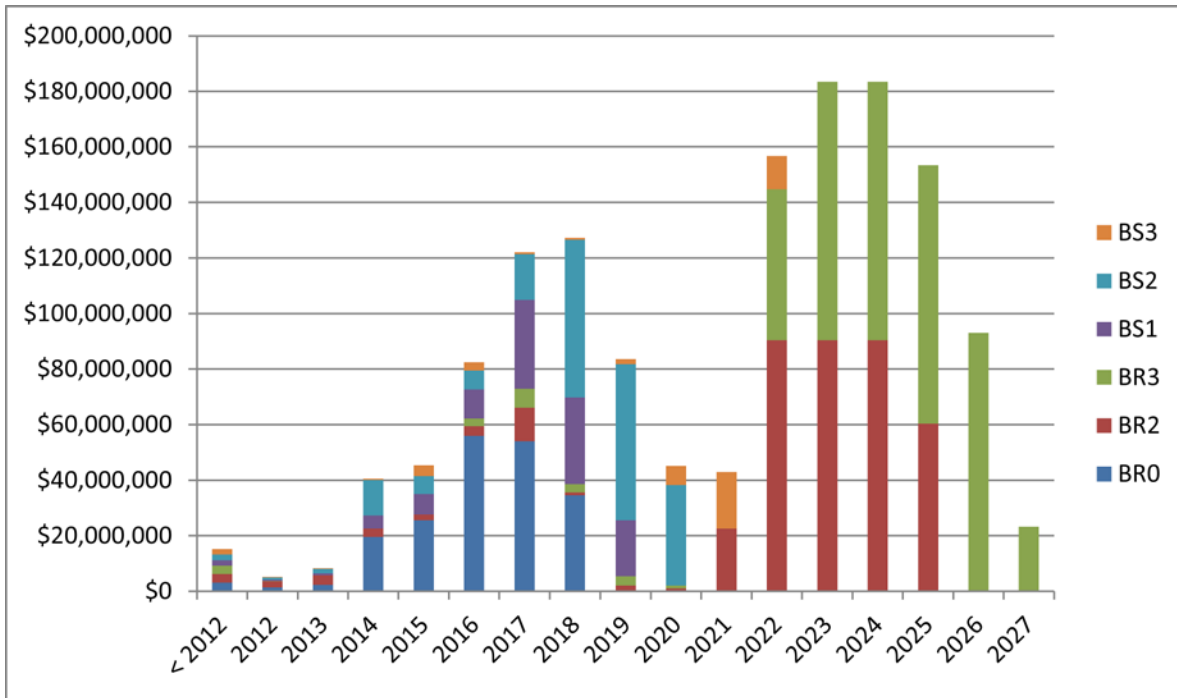


Figure ES-3: Total Project Annual Cash Flow (YOE dollars, in millions)

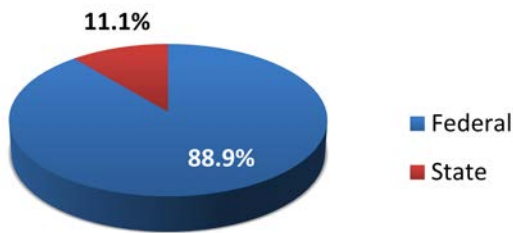


Figure ES-4: Total Project Sources of Funds

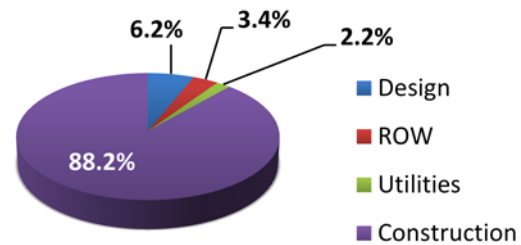


Figure ES-5: Total Project Uses of Funds

- Chapter 7. Public Private Partnership (P3) Assessment** – This chapter assesses the possibilities that a P3 proposal would be received or undertaken to reconstruct any portion of I-95 in PA. To date, no unsolicited proposals have been received for a project involving I-95 in PA. It is also fair conjecture to make that any P3 proposal for this corridor project would affect the consensus for the project that has been built over the years by outreach to stakeholders and the general public.
- Chapter 8. Risk and Response Strategies** – This chapter addresses a number of important factors that could affect the Project and, in particular, the financial plan for the Project. These include cost and funding related risks and associated mitigation strategies, as well as interdependencies with the State's overall transportation program, budget, and other projects.

A pre-construction CER was performed by the FHWA Major Projects Office on July 14-15, 2014. The objective of the CER was to verify the accuracy and reasonableness of the current Project total cost estimate and schedule, and to develop a probability range for the cost estimate, which represents the Project's current stage of development. Through this process, FHWA was able to determine the DER was developed at an appropriate level of detail and the estimated project cost appropriately represents the cost of the Project in YOE dollars.

To arrive at this conclusion, the Team, together with PennDOT experts, defined and discussed known and probable unknown risk elements. Following FHWA's process, costs were assigned to these risks and the corresponding contingencies were removed.

- **Chapter 9. Annual Update Cycle** – PennDOT is fully committed to meet its obligations under this plan based on its current legal authorities. Circumstances can change and alternatives may present themselves as superior to the baseline plan, as articulated in this document. Future annual updates will account for any such revisions to the funding plan.

PennDOT has selected the anniversary date method to establish the due dates for annual updates. The anniversary date for this IFP is December 31, 2015. PennDOT will provide annual updates each December 31, until the project is substantially complete. The AU will update the project through the conclusion of the Federal Fiscal Year that ended the previous September 30th.

- **Chapter 10. Summary of Cost Changes since Previous FP** – Placeholder.
- **Chapter 11. Cost and Funding Trends since IFP** – Placeholder.
- **Chapter 12. Schedule Changes since Previous FP** – Placeholder.
- **Chapter 13. Schedule Trends since IFP** – Placeholder.

Chapters 10 through 13 will be completed in the first AU and updated in each AU thereafter.

Conclusion

This IFP creates a record of planned expenditures and funding sources secured for the Project and documents sources of funding through project completion. The presentation of this IFP is based upon currently available information, and as such, PennDOT is fully prepared to complete the Project on schedule and in accordance with the projected funding requirements.

Chapter 1 – Narrative Description

Project Description

The I-95 Betsy Ross Bridge Interchange and the Bridge Street Ramps Interchange Project (BRI/BSR) is classified as a Major Project consistent with the FHWA guidelines issued January 19, 2007. The purpose of this Financial Plan is to provide accurate design and construction cost estimates for the BRI/BSR project to better manage designated revenue streams so that this project is more fiscally responsible.

The I-95 Betsy Ross Bridge and Bridge Street Ramp Interchange Project is located within the City and County of Philadelphia and extends approximately 2.5 miles along I-95 from the west side of Wheatsheaf Lane at its southwestern end to Levick Street at its northeastern end (Figure 1-1). The overall project involves widening and reconstruction of I-95 to eliminate the lane drops at the interchanges by providing four continuous thru lanes in each direction. The existing substandard shoulder widths will be replaced with full width shoulders along the project length to improve motorist safety. Aging bridge structures originally constructed in the mid to late 1960s will also be replaced or rehabilitated.

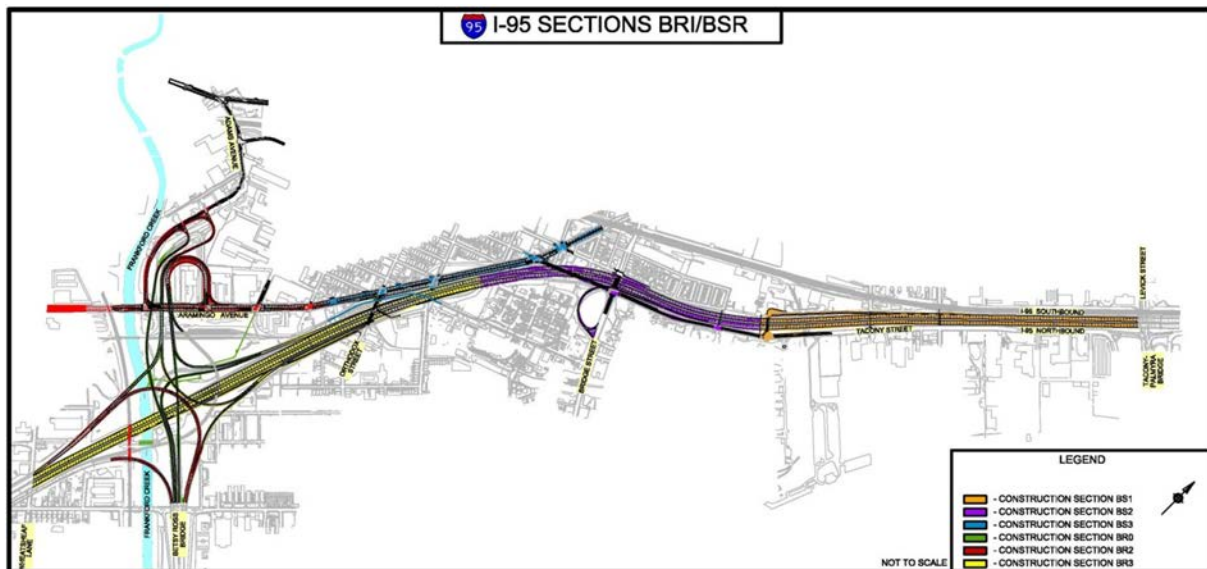


Figure 1-1: Project Location Map

The project also includes areas of the surrounding city street network located to the north and south of SR 0095. That city street system consists of a number of high-volume arterials including Aramingo Avenue, Richmond Street, Torresdale Avenue, Bridge Street, Harbison Avenue and Tacony Street. The area is extensively developed with a mix of residential, commercial, industrial, and institutional properties, and is located within a number of local northeast Philadelphia neighborhoods including Port Richmond, Bridesburg, Tacony, and Wissinoming.

The pedestrian, bicycle, and transit facilities that are present along Aramingo Avenue, Tacony Street, Adams Avenue, and the developing Frankford Creek Greenway will either remain or be enhanced as part of the project. The pedestrian and bicycle facilities will be expanded and enhanced to include wider sidewalks, multi-use side paths, bike lanes, and other pathways and public spaces. Appropriate pedestrian access will be provided via signalized crossings, signing, pedestrian signals with push buttons, and pavement markings.

The work associated with the Sections BRI and BSR project are being coordinated with other I-95 projects (Sections CPR, GIR, and AFC) for corridor design consistency and from a construction letting and construction staging standpoint.

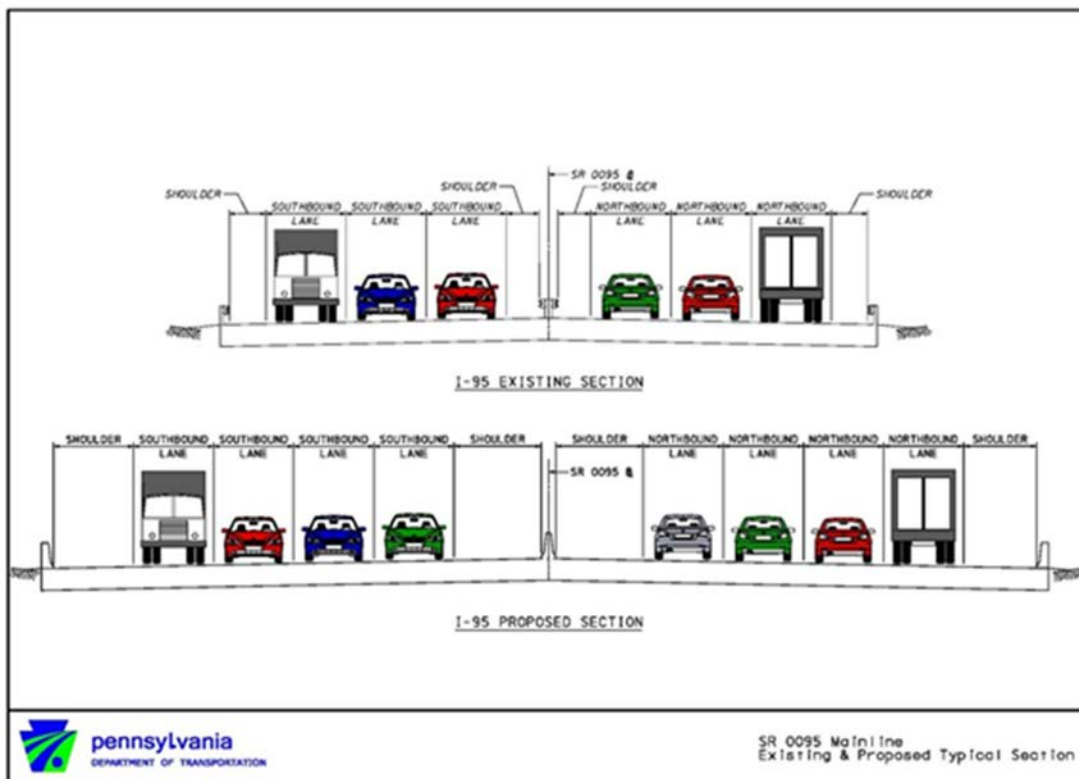


Figure 1-2: Mainline Cross Section

The Project consists of two primary sections BRI and BSR, and each of these are broken down into three segments which will represent a total of six major construction segments. Each segment is briefly described below:

- **Betsy Ross Interchange** – The BRI section extends from Wheatsheaf Lane to Margaret/Lefevre Street. In this section the mainline will be widened to four lanes in each direction and the collector/distributor roadway on each side of the mainline will be eliminated. Also included is the reconstruction/rehabilitation of the I-95 interchange with the Betsy Ross Bridge. Nineteen bridge structures will be reconstructed, replaced, or rehabilitated; five bridge structures will be removed. Work will also include the relocation of one combination sewer for the Philadelphia Water Department (PWD). The three segments of BRI are:
 - **Segment BR0:** Betsy Ross Interchange ramps from the west approach to Betsy Ross Bridge to the west side of Aramingo Avenue (construction is scheduled to begin in early 2015).
 - **Segment BR2:** Conrail Shared Assets Bridge on the Delair Branch at the Betsy Ross Interchange, Aramingo Avenue Reconstruction from Wheatsheaf Lane to Duncan Street and Adams Avenue Connector Ramps (construction is scheduled to begin in 2021).

- **Segment BR3:** Northbound and southbound SR 0095 from the northern limit of Wheatsheaf Lane to Margaret/Lefevre Street (construction is scheduled to begin in 2021).
- **Bridge Street Ramps** – The limits of the BSR section include I-95 from Margaret/Lefevre to Levick Street, Aramingo Avenue from Duncan Street to the Amtrak overpass, and Tacony Street from Aramingo Avenue to Van Kirk Street. This project will eliminate the southbound lane drop at the James Street ramp and widen I-95 to four lanes in each direction from Margaret/Lefevre Street to Levick Street. Five dual mainline bridges and one ramp bridge will be replaced. The three segments of BSR are:
 - **Segment BS1:** Northbound and Southbound SR 0095 from relocated Carver Street Bridge to Levick Street and Tacony Street from relocated Carver Street to Van Kirk Street (construction is scheduled to begin in 2016).
 - **Segment BS2:** Northbound and southbound SR 0095 from Margaret/Lefevre Street to relocated Carver Street Bridge and Tacony Street from Aramingo Avenue to relocated Carver Street (construction is scheduled to begin in 2017).
 - **Segment BS3:** Aramingo Avenue from Duncan Street to the Amtrak overpass (construction is scheduled to begin in 2020).

The various project sections are graphically shown in Figure 1-1.

Project History and Status

The I-95 Betsy Ross Bridge Interchange and the Bridge Street Ramps Project are two of five active Corridor Improvement Projects along I-95 in Pennsylvania. For the purposes of this Financial Plan, the Betsy Ross Bridge Interchange and the Bridge Street Ramps Project is considered one Major Project. In cooperation with the Federal Highway Administration, the corridor efforts began in the 1980s with the Department's review of the overall interstate highway system in the Philadelphia Metropolitan Area.

The I-95 corridor improvement project has consisted of numerous studies over the years to assess the existing roadway system to determine the appropriate improvements and to program funds for construction. The following is a brief timeline that explains how Sections BRI and BSR and the other active sections of the I-95 Corridor Improvement Project have evolved.

In October 1989, an I-95 Feasibility Study was completed by Greiner Engineering Sciences, Incorporated for widening 23 miles of I-95 from six to eight lanes between the I-676/Vine Street Interchange in the City of Philadelphia to I-276/Pennsylvania Turnpike in Bucks County. The study evaluated existing failing capacity conditions (i.e. Level of Service F), the possible introduction of high occupancy vehicle (HOV) lanes, and the rapidly deteriorating structural conditions of the highway system built in the 1960s.

In February 1995, PennDOT awarded a design contract to Raytheon Infrastructure Services, Incorporated to develop concepts to modernize and transform the 51 miles of the I-95 corridor from the Delaware state line to the New Jersey state line into a model transportation corridor. These concepts were intended to address traffic congestion, structurally deficient bridges and pavement, mass transit and vehicle use integration, and noise and air quality.

In the late 1990s, the long-term goals were established by designating five individual design projects extending from I-676/Vine Street Interchange to Academy Road Interchange within Philadelphia County. I-95 corridor improvements were separated into the following sections (from south to north):

- Girard Avenue Interchange (GIR)
- Allegheny Avenue Interchange (AFC)
- Betsy Ross Interchange (BRI)
- Bridge Street Ramps (BSR) and
- Cottman Avenue/Princeton Avenue Interchange (CPR).

The I-95 Section BRI and BSR are presently in the Final Design phase with ongoing right-of-way (ROW) acquisitions, utility coordination, and environmental clearances. The first construction section will be Segment BR0. A Summer 2014 PS&E submission is proposed with the construction letting to occur in the Fall of 2014. ROW clearance has not yet been issued but is required prior to construction advertisement.

Regarding environmental studies, a Categorical Exclusion Evaluation (CEE) was approved for the BRI/BSR project in July 2011. Subsequent CEE Re-evaluations have occurred and will continue to occur as the various construction sections move into final design. A Re-evaluated CEE was approved in April 2014; this CEE covered additional ROW impacts and minor changes in design. A second re-evaluated CEE will be prepared and submitted in Summer 2014. This CEE will cover ADA ramps, PGW gas line relocation, and ITS improvements. The initial CEE was completed during preliminary design and evaluated the project impacts to all environmental and cultural resources. This included, but was not limited to, impacts related to historic structures, archaeology, hazardous waste, and noise quality. Additional environmental studies will occur in final design and will include Phase II/III Environmental Site Assessments, Final Design Noise Impact Study, agency coordination, and Section 404/Chapter 105 permitting. A Memorandum of Agreement (MOA) was established between PennDOT and the FHWA that highlights the mitigation efforts necessary to meet the requirements of Section 106 of the National Historic Preservation Act. Public involvement and stakeholder feedback will also continue through final design.

BRI will have a phased NPDES issued by DEP. BR0 is the first segment and the application is under review.

BSR will have a phased NPDES issued by DEP. BS1 is the first segment and the application is being prepared. NPDES includes Post Construction Stormwater Management, approval of which is provided by the City to DEP.

BR0, BR2, and BR3 will have 105/404 permits due to the crossing of Frankford Creek. The BR0 application is under review

BS1 and BS2 will have nationwide USACOE permits due to outfalls to the Delaware River and Old Frankford Creek.

Project Sponsor, Partners, and Management

The Project Sponsors are the FHWA, PennDOT, and the City of Philadelphia. PennDOT has management and oversight responsibility. PennDOT is a separate state agency within the government of the Commonwealth of Pennsylvania. PennDOT is self-funded with dedicated, legislatively restricted revenue sources. PennDOT owns, operates, and maintains approximately 40,000 miles of highways and 25,000 bridges. PennDOT administers an annual budget of approximately \$8 billion. The proposed Project is well within the capabilities of the Department to manage successfully.

Project Management and Oversight

PennDOT will oversee all Project activities from the preliminary engineering and environmental phases through final construction. To assist with this endeavor, PennDOT will retain consultants for the design and construction phases. Contractual agreements will not transfer the overall responsibility of project oversight to the Consultants. PennDOT is also responsible for developing the Project Management Plan (PMP) to prescribe the project management and oversight method, including scope, schedule, cost oversight, and cost containment procedures.

Because of the complexity of the Project, a PennDOT Management Team has been assembled to ensure the success of this project and its related projects. A team of PennDOT officials at the District level control and coordinate the multiple sections of the I-95 corridor with support from the Department's Central Office. PennDOT has appointed managers in various technical disciplines i.e. structures, geotechnical, environmental, ROW, utilities, pavement design, and construction management that assist in the development of the specific aspects of the design. PennDOT has also selected consultant Design and Construction Managers to assist in the management and review of the corridor projects.

Each section of the corridor has a PennDOT or consultant Project Manager that represents the Design Team for that corridor project. The Design Team meets on a regular basis to discuss and coordinate the individual projects of the corridor. The entire team of managers and discipline leads along the corridor meets for quarterly coordination meetings to discuss project status and corridor design issues. The coordination efforts have been a valuable asset to the design and construction efforts to date.

Chapter 2 – Schedule

Overview of Activities and Project Schedule

This chapter provides information on the planned schedule for implementation of all the Project elements. It also provides information regarding the assignment of implementation responsibilities and provides a summary of the status of necessary permits and approvals.

Based on the current planned project delivery approach, the Project is scheduled to be constructed in six construction packages over a 12-year build out period to construction completion. Scheduled first is Segment BR0, followed by BS1, BS2, BS3, BR2, and BR3. The Project is scheduled to be physically completed by the conclusion of Federal FY 2026.

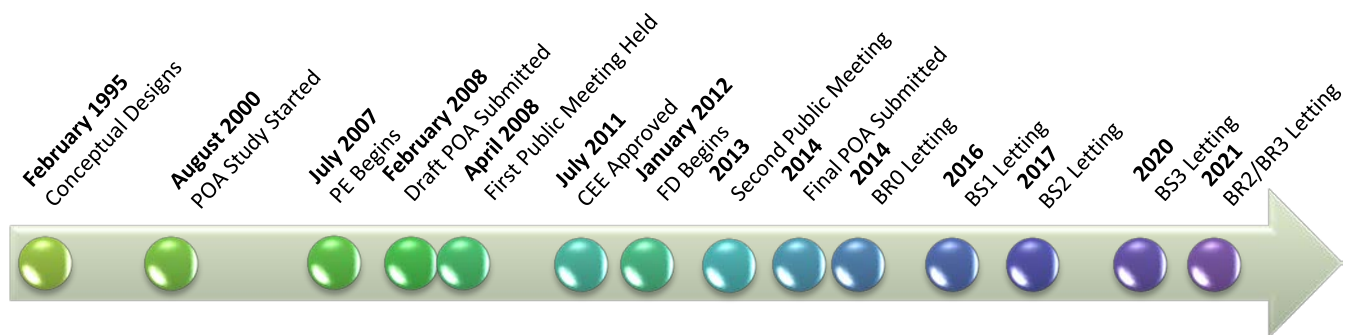


Figure 2-1: Project History Timeline

Table 2-1 presents an overview of the Project schedule. Project schedule is discussed more fully in Chapter 3.

Table 2-1: Project Schedule Overview by Segment and Element

Segment	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025-26	
BR0	Design Start: 10/2011, Finish 7/2014															
		ROW/Utilities Start: 9/2012, Finish: 8/2014														
				Construction Start: 11/2014, Finish: 11/2017												
BR2			Design Start: 1/2013, Finish: 12/2019													
					ROW/Utilities Start: 9/2015, Finish: 8/2017											
											Construction Start: 2/2021, Finish: 2/2025					
BR3					Design Start: 9/2015, Finish: 12/2019											
					ROW/Utilities Start: 9/2015, Finish 8/2017											
											Construction Start: 8/2021, Finish: 9/2026					
BS1			Design Start: 10/2013, Finish: 9/2015													
			ROW/Utilities Start: 11/2013, Finish: 10/2015													
						Construction Start: 1/2016, Finish: 11/2018										
BS2			Design Start: 10/2013, Finish: 9/2016													
		ROW/Utilities Start: 11/2012, Finish: 10/2015														
							Construction Start: 1/2017, Finish: 11/2019									
BS3						Design Start: 9/2016, Finish: 9/2019										
		ROW/Utilities Start: 11/2012, Finish: 10/2015														
										Construction Start: 1/2020, Finish: 11/2021						

Presentation of Project by Major Segment

The Project consists of two primary sections BRI and BSR and each of these are expected to be broken down into three segments which will represent a total of six major construction segments. Each segment is briefly described below:

- Betsy Ross Interchange** – The BRI section extends from Wheatsheaf Lane to Margaret/Lefevre Street. In this section the mainline will be widened to four lanes in each direction and the collector/distributor roadway on each side of the mainline will be eliminated. Also included is the reconstruction/rehabilitation of the I-95 interchange with the Betsy Ross Bridge. Nineteen bridges structures will be reconstructed, replaced or

rehabilitated; five bridge structures will be removed. Work will also include the relocation of one combination sewer for the PWD. The three segments of BRI are:

- **Segment BR0:** Betsy Ross Interchange ramps from the west approach to Betsy Ross Bridge to the west side of Aramingo Avenue (construction is scheduled to begin in November 2014 and to be completed by November 2017).

Betsy Ross Interchange from the west approach to Betsy Ross Bridge to the west side of Aramingo Avenue will include the following:

- Partially widen the Ramp C Bridge over I-95
 - Widen and replace the deck of the Ramp D Bridge over Aramingo Avenue, Conrail, and Frankford Creek
 - Replace the Ramp EE Bridge over I-95 (new alignment)
 - Rehabilitate the Ramp F Bridge over Open Ground
 - Widen and replace the deck of the Ramp I Bridge over Aramingo Avenue and Conrail
 - Construct Ramp I Bridge over I-95 and Ramp C (new bridge)
 - Construct Ramp JJ Bridge over Aramingo Avenue, Conrail, SR 0095, and Ramp C (new bridge)
 - Remove and relocate the PWD's Combination Sanitary/Storm Sewer Culvert
 - Remove the Thompson Street Bridge over Frankford Creek
 - Construct new tie-in ramps for approach roadway Ramps D, F, JJ, and KK
 - Relocate Philadelphia Gas Works gas mains in abandoned Thompson Street to Wheatsheaf Lane and Richmond Street
 - Construct a Permit Truck Pull-off from Ramp XY for the Delaware River Port Authority.
 - Install new traffic signals at the following intersections:
 - Richmond Street and the WB Exit Ramp from Betsy Ross Bridge
 - Richmond and Bristol Streets
 - Modify the traffic signals at the following locations:
 - Richmond and Lefevre Streets
 - Aramingo Avenue and Ramp XY.
- **Segment BR2:** Conrail Shared Assets Bridge on the Delair Branch at the Betsy Ross Interchange, Aramingo Avenue Reconstruction from Wheatsheaf Lane to Duncan Street and Adams Avenue Connector Ramps (construction is scheduled to begin in February 2021 and to be completed by February 2025).

Conrail Shared Assets Bridge on the Delair Branch at the Betsy Ross Interchange, Aramingo Avenue Reconstruction, and Adams Avenue Connector Ramps, which will include the following:

- Rehabilitate the Conrail Shared Assets Railroad Bridge over Ramps A and C
- Replace the Conrail Shared Assets Railroad Bridge over I-95
- Remove the Conrail Shared Assets Bridge over abandoned Thompson Street
- Reconstruct Ramp A over Frankford Creek
- Reconstruct Ramp B over I-95
- Replace Aramingo Avenue Bridge over Frankford Creek
- Widen and reconstruct Aramingo Avenue from Wheatsheaf Lane to Duncan Street to three lanes in each direction
- Construct Approach Roadway Ramps D, F, JJ, and KK to connect to Adams Avenue Connector and Aramingo Avenue to I-95 northbound, southbound and the Betsy Ross Bridge

- Construct the Adams Avenue Connector from Aramingo Avenue to north of the Betsy Ross Bridge Interchange (Ramp D intersection)
 - Construct a 12-foot wide shared use path along the south side of Adams Avenue and along the east side of Aramingo Avenue from Wheatsheaf Lane to Duncan Street
 - Install new traffic signals at the following intersections:
 - Aramingo Avenue and Adams Avenue Connector
 - Aramingo Avenue and Church Street
 - Aramingo Avenue and Ramp F.
 - Torresdale Avenue and Adams Avenue Connector.
- **Segment BR3:** Northbound and southbound SR 0095 from the northern limit of Wheatsheaf Lane to Margaret/Lefevre Street (construction is scheduled to begin in September 2021 and to be completed by September 2026).

Northbound and southbound I-95 from Wheatsheaf Lane to Margaret/Lefevre Street, which will include the following:

- Widen and reconstruct northbound and southbound I-95 from the northern limit of the structure over Wheatsheaf Lane to the northern limit of the structure over Orthodox and Margaret/Lefevre Streets
- Replace the northbound and southbound I-95 Bridge over Frankford Creek
- Remove the northbound and southbound I-95 Bridge over Earth Fill from the Betsy Ross Interchange to Orthodox Street and replace with Geotechnical-Engineered Compensating Fill
- Replace the northbound and southbound I-95 Bridge over Orthodox Street, Pearce Street, and Margaret/Lefevre Street
- Remove the existing Ramp X over Earth Fill
- Remove the southbound Collector/Distributor over Earth Fill
- Replace Curtain Wall A (southbound Collector/Distributor to Ramp F) with new Wall C
- Replace Retaining Wall M Inner (I-95 southbound near Margaret to Pearce Street) with new Wall D
- Remove Retaining Wall M Outer (I-95 southbound near Margaret to Pearce Street)
- Construct a new northbound Ramp YY off-ramp to Orthodox Street
- Realign Pearce Street to connect to Orthodox Street
- Reconstruct Orthodox Street from the east side of I-95 to the intersection with Aramingo Avenue
- Reconstruct the Ramp G Bridge over I-95
- Reconstruct Ramp H over Juniata and Almond Streets
- Replace the Ramp GH Bridge over Ramp Y
- Remove existing Ramp Y bridge over Earth Fill
- Remove the northbound Collector/Distributor Bridge over Earth Fill
- Remove the Ramp J Bridge over Orthodox and Pearce streets
- Replace existing Curtain Walls B and C (Ramp H to northbound Collector/Distributor) with new Wall A
- Replace existing Retaining Wall Ramp J (Pearce to Margaret Street) with new Wall B
- Construct approximately 1,000 feet of ground-mounted sound walls and 3,000 feet of structure-mounted sound walls along northbound I-95.

- **Bridge Street Ramps** – The limits of the BSR section include I-95 from Margaret/Lefevre to Levick Street, Aramingo Avenue from Duncan Street to the Amtrak overpass and Tacony Street from Aramingo Avenue to Van Kirk Street. This project will eliminate the southbound lane drop at the James Street ramp, eliminate the northbound add lane at the Bridge Street on-ramp, and widen I-95 to four lanes in each direction from Margaret/Lefevre Street to Levick Street. Five dual mainline bridges and one ramp bridge will be replaced. The three segments of BSR are:
 - **Segment BS1:** Northbound and southbound SR 0095 from relocated Carver Street Bridge to Levick Street and Tacony Street from relocated Carver Street to Van Kirk Street (construction is scheduled to begin in January 2016 and to be completed by November 2018).

From relocated Carver Street to Levick Street, the following work will be included:

- Widen and reconstruct SR 0095 from Station 568+00 to 615+00.
 - Construct a new southbound off-ramp to Tacony Street.
 - Remove the existing southbound off-ramp to James Street.
 - Reconstruct Tacony Street north of Bridge Street.
 - Construct I-95 northbound and southbound bridges over relocated Carver Street
 - Remove I-95 northbound and southbound bridges over existing Carver Street
 - Replace I-95 northbound and southbound bridges over Van Kirk Street
 - Replace I-95 northbound and southbound bridges over Comly Street
 - Construct new traffic signals at the intersection of Carver and Tacony streets
 - Modify the existing traffic signals at the intersections of Tacony and Van Kirk Streets and at Tacony and Comly Streets.
- **Segment BS2:** Northbound and southbound SR 0095 from Margaret/Lefevre Street to relocated Carver Street Bridge and Tacony Street from Aramingo Avenue to relocated Carver Street (construction is scheduled to begin in January 2017 and to be completed by November 2019).

From Margaret/Lefevre Street to the relocated Carver Street Bridge, the following work will be included:

- Widen and reconstruct I-95 from Station 530+00 (Margaret/Lefevre Street) to 568+00 (Carver Street)
- Replace the northbound and southbound Tacony Street Viaduct
- Replace the northbound and southbound bridges over Fraley Street
- Replace the Bridge Street on-ramp to I-95 northbound
- Construct nine northbound and eight southbound retaining walls
- Construct two structure mounted noise walls
- Reconstruct Tacony Street from Aramingo Avenue to Bridge Street
- Modify traffic signals at the Tacony and Bridge streets intersection
- Modify traffic signals at the James and Bridge streets intersection.

- **Segment BS3:** Aramingo Avenue from Duncan Street to the Amtrak overpass (construction is scheduled to begin in January 2020 and to be completed by November 2021).

Aramingo Avenue from Duncan Street to the Amtrak overpass will include the following work:

- Widen and reconstruct Aramingo Avenue from Duncan Street to the Amtrak overpass.
- Construct a 12-foot wide shared use path along the east side of Aramingo Avenue from Duncan Street to Lefevre Street.
- Replace traffic signals at the following locations:
 - Torresdale Avenue and Bridge Street
 - Aramingo Avenue and Orthodox Street
 - Aramingo Avenue and Margaret Street
 - Aramingo Avenue and Tacony Street
 - Aramingo Avenue and James Street
 - Torresdale Avenue and Harbison Street
 - Bridge Street and Harbison Avenue.
- Install new traffic signal at the intersection of Church and Tacony Streets.

Chapter 3 – Project Cost Estimate

Introduction

This chapter provides a detailed description of the cost elements of the Project and provides current estimates of those costs. It also summarizes the costs incurred to date and provides detail on key cost-related assumptions.

Cost Estimate Overview

Cost estimates have been developed by the two lead design firms, STV, Inc. (STV) and CDM Smith, Inc. (CDM Smith). The estimates were reviewed and unit prices updated in Fall 2013, based on recent cost data for PennDOT projects in the Philadelphia Region. The base cost estimate is in 2014 dollars.

PennDOT, taking a slightly different approach, estimated the cost of the entire Project in FY 2014 dollars and then inflated the six individual construction packages to the letting year. PennDOT's YOY estimate is \$1,326.7 million.

It is highly possible the final cost of the Project will differ from the estimate. The STV and CDM Smith estimates include contingencies due to the current level of design detail and to account for risk. As the Project progresses through final design, the contingency will reduce. It is typical to determine the cost of a major project such as this one at the 70 percent probability range. Considering all risks to project costs, the 70 percent probability range determines what the cost of the Project will be if most of these risks occur. Conversely, the Project cost has a 30 percent probability to cost more than the estimate at this level. The 70 percent probability estimate for this Project is \$1,411.1 million, based on the results of the July 14-15, 2014 Cost Estimate Review (CER), see Appendix B.

Cost Estimating Methodologies and Key Assumptions History

Baseline Cost Estimating Methodology by Cost Element

STV and CDM Smith prepared updated construction cost estimates in Fall 2013. PennDOT District 6-0 estimated preconstruction costs based on actual costs plus anticipated expenditures. This information can be found in Appendix C.

The construction cost estimates provided an estimate commensurate with the level of design development, and includes contingency to account for design elements which are not fully developed at this time. The baseline cost in FY 2014 dollars is \$1,167.0 million. A review of actual unit prices paid for similar construction work in the Philadelphia Region was performed by STV and CDM Smith.

Baseline Inflation Assumption

A high percentage of the environmental assessment and design engineering is already complete or under contract. Over one-half of the ROW acquisition is also underway. Utility and railroad costs are less known at this time; conservative estimates of these costs have been used. For these reasons an inflation rate has not been applied for these pre-construction costs.

A 3 percent annual inflation rate has been applied to construction (which includes traffic control and ITS activities), construction engineering and inspection, and construction contingencies. The 3 percent inflation rate is above the current Consumer Price Index rate for the region. PennDOT will continue to monitor market conditions and adjust the inflation rates as appropriate. Adjustments for inflation will be reflected in the Annual Updates to the IFP.

Cost Elements

The cost estimate to complete the Project is broken down into six segments. The costs for each project segment have been further broken down into cost elements as follows:

1. **Preliminary Engineering Road and Bridge (PE)** – Development of plans and estimates necessary to define the project, estimate the cost of the project, and obtain environmental clearance. This includes feasibility studies.
2. **Final Design (FD)** – Development of plans, specifications, and estimates necessary to let the segment for construction.
3. **ROW** – Total costs to purchase ROW including appraisals, administration, management, and acquisition of required ROW.
4. **Construction** – Total estimated cost to construct the Project. Including clearing, bridge and building demolition, and earthwork; pavement and base materials; drainage and erosion control; structures; maintenance of traffic, traffic signals and ITS; sidewalk and curb; highway lighting; landscaping; handling of hazardous materials; cultural resource mitigation; incorporated utility and railroad work; and other miscellaneous items of construction; and mobilization.
 - a. **Construction Contingencies** – The base cost estimate includes a contingency of 20 percent for the BR0/BR2/BR3 segments and 25 percent for the BS1/BS2/BS3 segments. The difference is due to the BR0/BR2/BR3 design being further advanced than the BS1/BS2/BS3 design. The contingency is not intended to cover future inflation.
 - b. **Construction Management/Engineering** – Services required to manage, inspect, and evaluate contractor designs during the construction of the Project.
5. **Utilities (UTL)** – Public and private utility relocation and new utility construction, such as telephone, electric, gas, fiber optics, water, and sewer, where PennDOT is reimbursing the facility owner some or all of the cost.

Table 3-1: Project Cost Estimate by Segment (YOE dollars, in millions)

Project Segment	Total Project Cost
BR0	\$196.3
BR2	\$387.6
BR3	\$469.8
BS1	\$109.0
BS2	\$196.4
BS3	\$52.0
Total (YOE) = \$1,411.1	

Table 3-2: Project Cost Estimate by Cost Element (YOE dollars, in millions)

Cost Element	Cost by Segment						Total Project Cost
	BR0	BR2	BR3	BS1	BS2	BS3	
Design	\$10.9	\$16.3	\$12.0	\$11.0	\$17.8	\$4.6	\$72.6
ROW	\$11.9	\$7.0	\$0.8	\$2.5	\$8.7	\$6.7	\$37.7
Construction	\$131.9	\$297.2	\$378.9	\$72.9	\$130.9	\$27.4	\$1,039.1
Utilities	\$9.1	\$2.8	\$0.2	\$4.0	\$5.5	\$4.4	\$26.0
Risks and Opportunities	\$32.5	\$64.3	\$77.9	\$18.6	\$33.5	\$8.9	\$235.7
Total =	\$196.3	\$387.6	\$469.8	\$109.0	\$196.4	\$52.0	\$1,411.1

Segment Costs

SR 0095 Section BRI – Betsy Ross Interchange and Mainline from Wheatsheaf Lane to Margaret/Lefevre Street in the City of Philadelphia

This project extends from Wheatsheaf Lane to Margaret/Lefevre Street. The approximate mainline construction length is 5,929 feet. The mainline will be widened to carry four lanes in each direction and eliminate the Collector/Distributor roadway on each side of the mainline. Within the project area will be the reconstruction/rehabilitation of the interchange with the Betsy Ross Bridge, including two new ramps from Aramingo Avenue to the Betsy Ross Bridge. Section BRI consists of 19 new, reconstructed or rehabilitated bridge structures, five bridges that will be removed, relocation of a combination sewer for the PWD, four retaining walls will be removed and replaced, one removed retaining wall and sound walls along the eastern side of I-95 that will be removed and replaced. Section BRI will be subdivided into three construction segments: BR0, BR2, and BR3.

Segment BR0

Table 3-3: Project Cost Estimate for Segment BR0 (YOE dollars, in millions)

Project Segment	Total Project Cost
Preliminary Engineering	\$3.3
Final Design	\$7.6
ROW Acquisition	\$11.9
Utility Relocation	\$9.1
Construction	\$131.9
Risks and Opportunities	\$32.5
Total (YOE) = \$196.3	

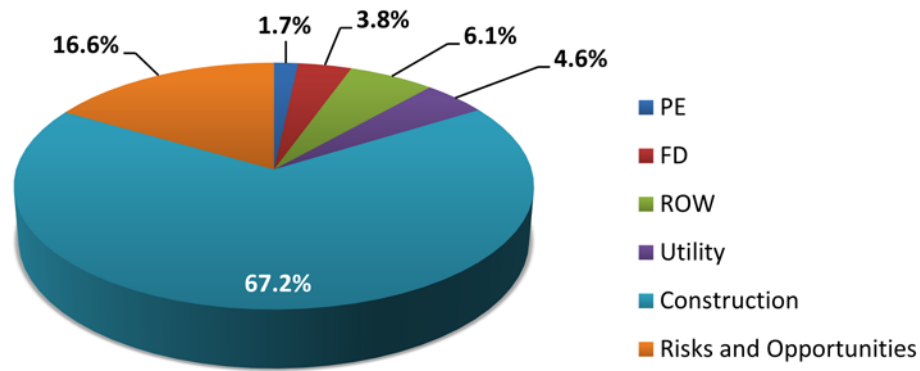


Figure 3-1: Project Cost Estimate for BR0 (YOE dollars, in millions)

Segment BR2

Table 3-4: Project Cost Estimate for Segment BR2 (YOE dollars, in millions)

Project Segment	Total Project Cost
Preliminary Engineering	\$3.3
Final Design	\$13.0
ROW Acquisition	\$7.0
Utility Relocation	\$2.8
Construction	\$297.2
Risks and Opportunities	\$64.3
Total (YOE) = \$387.6	

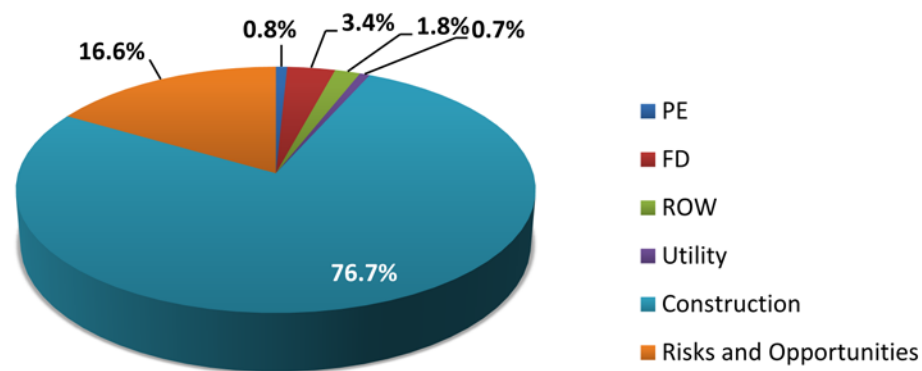


Figure 3-2: Project Cost Estimate for BR2 (YOE dollars, in millions)

Segment BR3

Table 3-5: Project Cost Estimate for Segment BR3 (YOE dollars, in millions)

Project Segment	Total Project Cost
Preliminary Engineering	\$3.3
Final Design	\$8.7
ROW Acquisition	\$0.8
Utility Relocation	\$0.2
Construction	\$378.9
Risks and Opportunities	\$77.9
Total (YOE) = \$469.8	

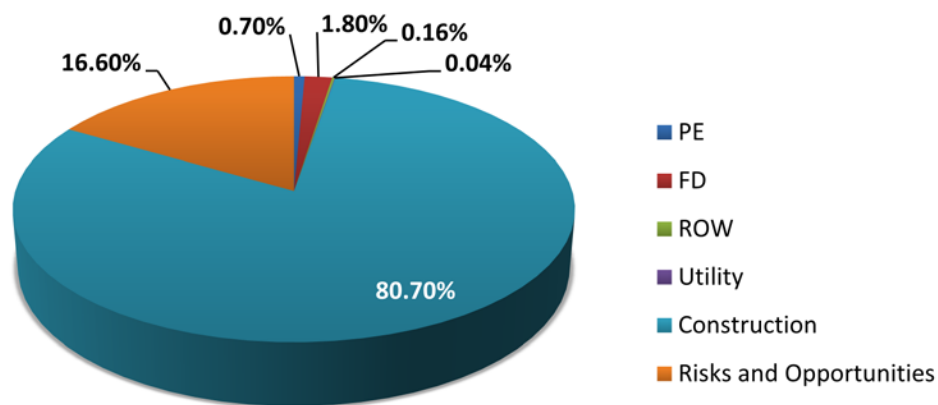


Figure 3-3: Project Cost Estimate for BR3 (YOE dollars, in millions)

SR 0095 Section BSR – Bridge Street Ramps from Margaret/Lefevre Street to Levick Street

This section of I-95 will eliminate the southbound lane drop at the James Street Ramp, eliminate the northbound add lane at the Bridge Street on-ramp, and widen I-95 to four lanes in each direction from Margaret/Lefevre Street to Levick Street. Five dual mainline bridges and a ramp bridge will be replaced. Long retaining walls will line I-95 through much of this section and two sound barriers will be constructed. It is anticipated that Section BSR will be constructed in the following three segments: BR1, BR2, and BR3.

Segment BS1

Table 3-6: Project Cost Estimate for Segment BS1 (YOE dollars, in millions)

Project Segment	Total Project Cost
Preliminary Engineering	\$2.0
Final Design	\$9.0
ROW Acquisition	\$2.5
Utility Relocation	\$4.0
Construction	\$72.9
Risks and Opportunities	\$18.6
Total (YOE) = \$109.0	

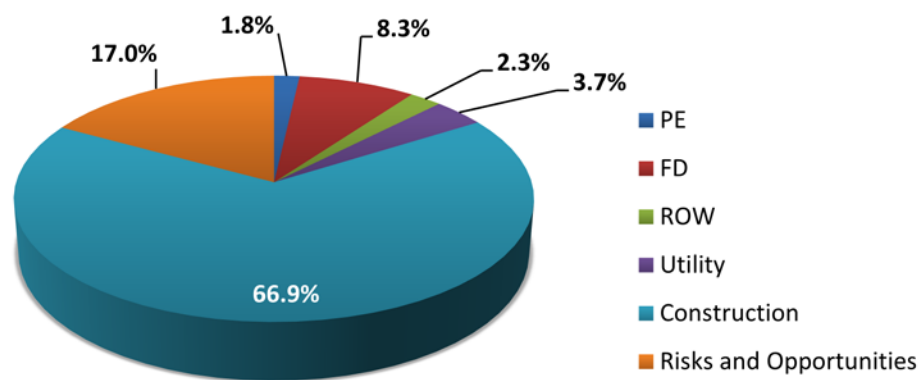


Figure 3-4: Project Cost Estimate for BS1 (YOE dollars, in millions)

Segment BS2

Table 3-7: Project Cost Estimate for Segment BS2 (YOE dollars, in millions)

Project Segment	Total Project Cost
Preliminary Engineering	\$2.0
Final Design	\$15.8
ROW Acquisition	\$8.7
Utility Relocation	\$5.5
Construction	\$130.9
Risks and Opportunities	\$33.5
Total (YOE) = \$196.4	

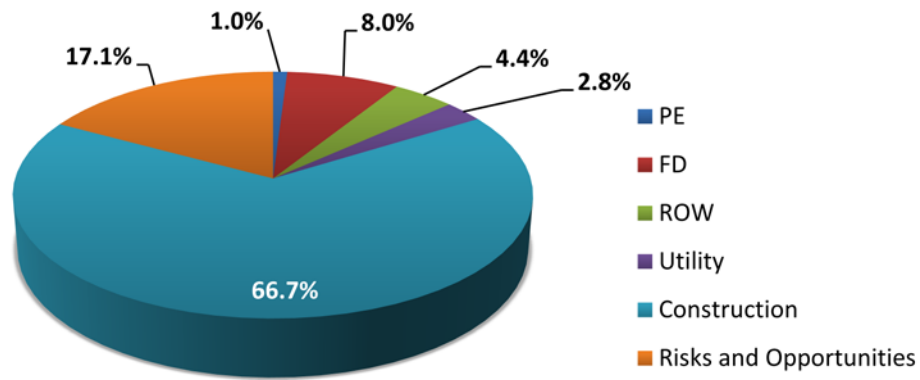


Figure 3-5: Project Cost Estimate for BS2 (YOE dollars, in millions)

Segment BS3

Table 3-8: Project Cost Estimate for Segment BS3 (YOE dollars, in millions)

Project Segment	Total Project Cost
Preliminary Engineering	\$2.0
Final Design	\$2.6
ROW Acquisition	\$6.7
Utility Relocation	\$4.4
Construction	\$27.4
Risks and Opportunities	\$8.9
Total (YOE) = \$52.0	

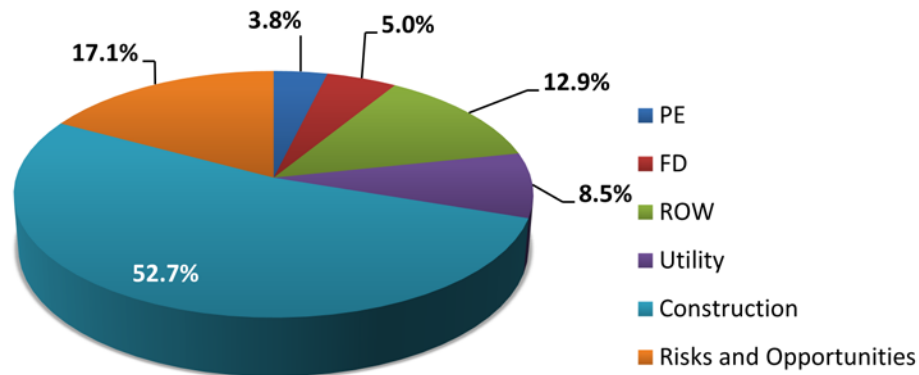


Figure 3-6: Project Cost Estimate for BS3 (YOE dollars, in millions)

Comparison of Current Estimated Cost with the IFP and Previous Annual Update

This section is reserved for future use. This document is the IFP.

Costs-to-Date

As of July 2014, \$53.3 million has been spent on the Project. Expenditures to date are for Preliminary Engineering, Final Design, and ROW acquisition.

Cost Management Responsibility

PennDOT has ongoing responsibility for the oversight of the Project and, in particular, the management of project costs and project schedule. PennDOT recognizes the importance of cost control for a project of this scale. As part of the cost control process, risks and opportunities will be continually monitored to assess the potential for cost overruns, and opportunities for savings. Each design consultant will be required to provide constant updates and confirm the work can be secured within the target amount for each construction package.

Amounts for unknown costs are included as contingencies in the cost estimate consistent with FHWA Major Project Guidelines. Each contingency is managed by evaluating project segment budgets and reallocating costs within the baseline to support the remaining segments and any other cost requirements. Similarly, modifications in scope will be evaluated within each segment to determine if the modifications can be accommodated within the allocation for that segment.

PennDOT uses several software packages to manage projects, including:

- **Multimodal Project Management System (MPMS)** – Contains the TIP/STIP, FHWA and State authorized funds, anticipated schedule of expenditures, and actual expenditures. MPMS also tracks the approval of cost changes.
- **Open Plan** – Is a commercially available project management software tool for task management.
- **SharePoint** – Is a commercially available internet based design submission and review tracking software tool.
- **Categorical Exclusion Expert System (CEES)** – Contains the Project's environmental documentation and environmental commitments.
- **Engineering and Construction Management System (ECMS)** – PennDOT's online bidding and construction management system.

FHWA Major Projects CER

The FHWA Major Projects Team performed the pre-construction CER on the Project July 14-15, 2014. The purpose of the CER was to verify the accuracy and reasonableness of the current project total cost estimate and project schedule, and to develop a probability range for the cost estimate that represents the Project's current stage of development.

FHWA, together with PennDOT and Consultants STV and CDM Smith discussed and supported the design, schedule, and unit prices used to estimate the Project. The following documents were reviewed: Project Cost Estimate Spreadsheet, Project Schedule, and project preliminary risk register. Approximately 20 cost and schedule risks were identified and quantified. Unit prices, current and anticipated market conditions, and influences on inflation were discussed. In addition, opportunities to reduce costs were identified and discussed.

The CER was developed in July 2014. The CER Team used a base estimate (i.e. all contingency was removed) of \$991.5 million. The contingency was replaced with the probabilistic and risk-based analysis of the project's uncertainties. The CER Team's probabilistic risk at the 70 percent range resulted in a total cost of \$1,215.0 million in current dollars, or \$1,411.1 million in YOE dollars.

The complete Pre-Construction CER Report is included as Appendix B.

Costs-to-Date

Table 3-9 provides a summary of the actual expenditures on the Project as of June 2014. Actual expenditures to date include those incurred for preliminary and final design for all segments of both BRI and BSR.

Table 3-9: Total Expenditures to Date by Federal FY (\$ Millions)

Federal Fiscal Year	Actual Expenditures to Date
Thru July 2014	\$53.3

Future Expenditures

Future expenditures are shown below. Future expenses are shown as anticipated lettings, inflated to year of obligation. Future expenditures total \$1,357.8 million.

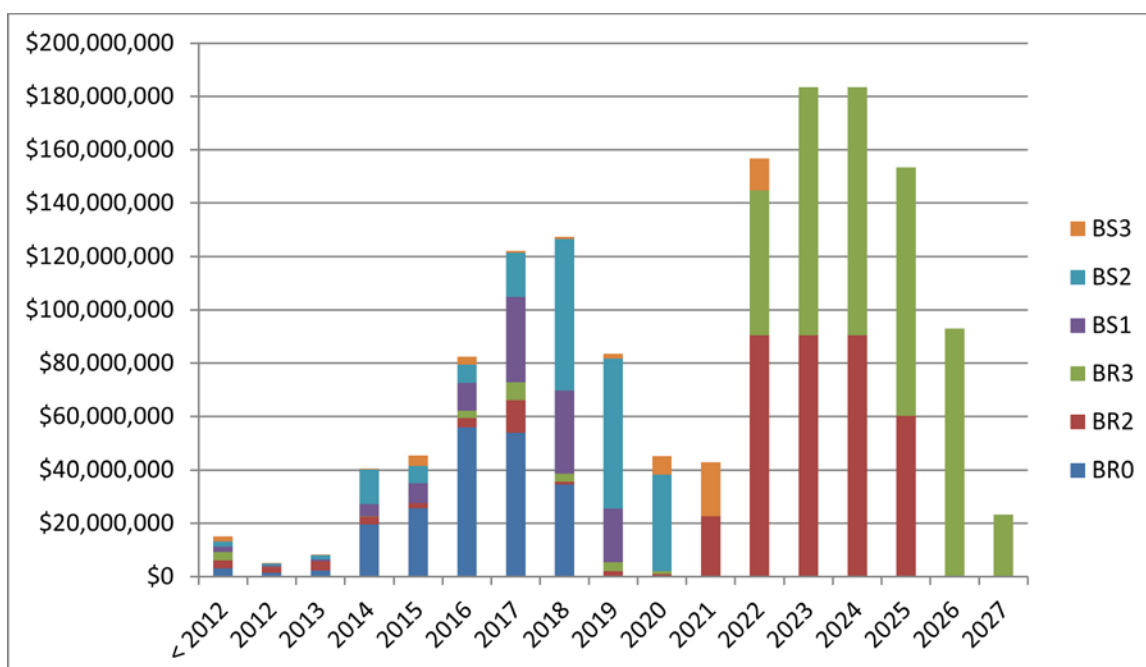


Figure 3-7: Projected Future Expenditures by Federal Fiscal Year (YOE dollars, in millions)

Chapter 4 – Project Funding

Introduction

As described in detail in Chapter 3, based on current estimates and the most up-to-date information on construction-related inflation, the Project will require an estimated \$1,411.1 million (in YOY dollars) to fully fund all project cost elements over the planned project horizon. This chapter reviews PennDOT's plan to fund the Project, describes in detail the planned sources of funds, and reviews the funding plan in the context of the State's overall transportation programs and available resources.

Project Plan of Finance

As currently planned, the Project will be funded through traditional federal aid and state match.

Source of Funds

Funding sources is referred to as falling into one of the following categories:

- **Expended and/or Obligated Funds** – Including funds that have actually been spent and those that have been obligated for the Project.
- **Programmed Funds** – Refers to those funds for which there is a commitment but no actual expenditures or obligations (i.e., funding included in PennDOT's Twelve Year Transportation Program and PennDOT's fiscally constrained Long Range Plan).

Obligated funds are funds that have been authorized by a form D-4232 signed by the FHWA.

Programmed funds are financially committed through the planning process and are included in long range planning documents. Commitments for programmed funding are documented by the PennDOT Interstate and DVRPC TIPs/STIPs, PennDOT TYP, and the fiscally constrained LRTP.

The BR0, BR2, BR3, BS1, and BS2 segments are contained on the Interstate TIP. The BS3 segment, because it is primarily improvements to surface arterials/streets, will be contained on the DVRPC TIP. All of the segments are fully funded on the fiscally constrained LRTP.

Excerpts from the TIP/STIP, TYP, and the LRTP showing the Project funding are contained in Appendix A. Adoption of the TIP/STIP, TYP, and LRTP is scheduled for September 2014.

The funds for the TIP/STIP, TYP, and LRTP are Federal National Highway Performance Program and State Transportation Funds. There is no local match funding for the Project.

Project Funding

PennDOT anticipates \$1,411.1 million will be needed to complete the Project. This includes the already expended federal and state funding of \$53.3 million for Preliminary Engineering, Final Design and ROW acquisition.

Table 4-1 shows the current breakdown of overall funding for the total project cost, including those already expended, of \$1,411.1 million.

Federal Funding

Federal funds are a significant source of funding for the Project. To date, the federal funding programs and obligated amounts are as follows:

- Earmarks \$27,254,911
- Bridge On-System \$2,200,000
- Interstate Management \$14,491,090
- NHPP \$19,512,000

The total obligated Federal funding to date is \$90,458,001. It is anticipated future Federal funds will be from the National Highway Performance Program.

State Funding

State Transportation Funds are from state funds for transportation purposes provided primarily by the Motor License Fund. Motor License Fund revenues are from liquid fuels taxes, vehicle registration fees, and other miscellaneous sources. All State funding obligated to date has been State Highway funds and the total is \$22,089,406.

Table 4-1: Summary Total Project Funding by Source (YOE dollars, in millions)

Funding Source	Obligated to Date	Expended	Balance of Obligated	Programmed	Total
Federal					
Formula Funds (by category)					
Previous Programs (BON, IM, Earmark)	\$70,946,001	\$40,177,616	\$30,768,385	-	\$70,946,001
National Highway Performance Program	\$19,512,000	\$0	\$19,512,000	\$1,164,519,423	\$1,184,031,423
SUBTOTAL – Federal	\$90,458,001	\$40,177,616	\$50,280,385	\$1,164,519,423	\$1,254,977,423
State					
State Match on Federal Funds	\$16,137,000	\$7,152,553	\$8,984,447	\$133,995,101	\$150,132,101
100% State Funds	\$5,952,406	\$5,919,987	\$32,419	-	\$5,952,406
SUBTOTAL – State	\$22,089,406	\$13,072,540	\$9,016,866	\$133,995,101	\$156,084,507
GRAND TOTAL	\$112,547,407	\$53,250,156	\$59,297,251	\$1,298,514,523	\$1,411,061,930

Planning for Unanticipated Changes in Expected Revenues

PennDOT continually evaluates actual revenues with respect to revenue projections. If revenues are significantly less than projected, PennDOT makes adjustments to the current TIP, and these adjustments also inform future TIPs and TYPs. If necessary the schedule for the segments of this Project would be changed and the resulting impacts to cost and funding documented in the next Annual Update to the Financial Plan.

Use of Advance Construct Authorizations

PennDOT has a fixed amount of FHWA funds that can be authorized each Federal Fiscal Year. Some authorizations are processed as Advance Construct (AC) because either the amount would cause the annual limit to be exceeded or because the actual costs will not be realized until subsequent Federal

Fiscal Years. Before any actual costs are incurred, sufficient AC authorizations are converted to regular authorizations. Any existing AC authorizations that exist at the expiration of a TIP are programmed for conversion on the TIP update. The conversion may be programmed over several years based on the anticipated incurring of costs.

Table 4-2 below summarizes the use of Advance Construct Authorizations to date for the project.

Table 4-2: Use of Advance Construct Authorizations to Date

Segment/Cost Element	AC'd Amount	AC Date	When Converted	AC Balance	Plan to Convert
BS1/BS2/BS3 Final Design	\$10,800,000	11/2/2011	4/26/2012, 8/20/2013	\$0	
BS1/BS2/BS3 Final Design	\$7,200,000	6/7/2013	8/20/2013	\$0	
BS1/BS2/BS3 Final Design	\$7,830,000	8/27/2013	-	\$7,830,000	Programmed on 2015 Interstate TIP
BS1/BS2/BS3 ROW	\$4,500,000	6/22/2012	7/30/2012	\$0	
BS1/BS2/BS3 ROW	\$12,978,000	6/7/2013	8/20/2013	\$0	
BR0/BR2/BR3 Prelim. Eng.	\$1,000,000	9/16/1999	8/29/2000	\$0	
BR0/BR2/BR3 Prelim. Eng.	\$2,580,000	3/7/2005	8/20/2010	\$0	
BR0/BR2/BR3 Final Design	\$4,425,089	5/8/2012	8/20/2013	\$0	
BR0/BR2/BR3 Utilities	\$5,760,000	8/27/2013	6/12/2014	\$0	
BR0 ROW	\$4,242,895	1/18/2013	5/15/2013	\$0	
BR2/BR3 ROW	\$5,635,323	6/9/2014	-	\$5,635,323	Programmed on 2015 Interstate TIP

Reconciliation of Programmed Funds to Cost Estimate Review

This Initial Financial Plan is based on PennDOT's estimates used to develop the FFY 2015-2016 TIP, the 2015-2026 TYP and the fiscally constrained 2015 LRTP. The July 2014 CER generated a 70 percent probability cost estimate of \$1,411.1 million. The project is fully funded on the 2015-2016 TIP, 2015-2026 TYP and the 2015 LRTP.

Key Revenue-related Assumptions, Risks, and Mitigations

As with any project of the size and duration of the Project, there are a great number of uncertainties regarding the magnitude and timing of project costs in relation to the availability of funding. These risks and the strategies being utilized to address them are discussed in Chapter 8 of this IFP.

Chapter 5 – Financing Issues

Financing (e.g. borrowing funds by issuing bonds) is not planned for this project.

Chapter 6 – Project Cash Flow

Introduction

This chapter provides a summary of the annual cash flow needs of the Project. Segment schedules and resulting projections of actual cash outlays will be updated in subsequent Annual Updates to the IFP. At a minimum, it is anticipated that the updates will address managing the timing of resource availability and cash flow requirements.

Sources and Uses of Funds

As described in Chapter 4 of this IFP and based on current plans, the Project will be funded with Federal and State funds. Figure 6-1 provides a summary of the planned sources and uses of funds for the Project.

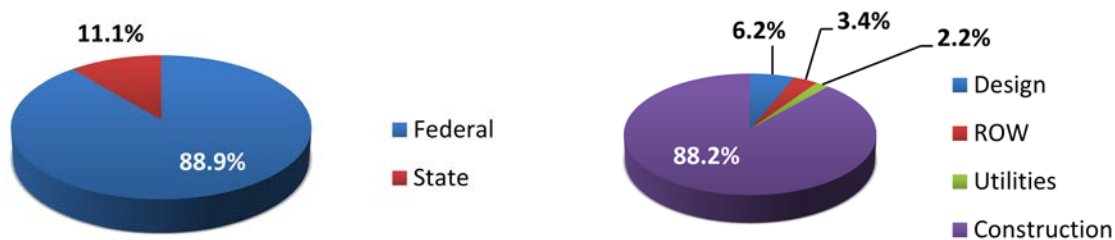


Figure 6-1: Summary of Planned Sources and Uses of Funds

Project Obligations and Cash Flow

Obligations versus Annual Cash Outlays

The Project funding requires obligations by project segment and cost element based on the Project schedule. PennDOT programs funds on the Interstate TIP and DVRPC TIP by segment and cost element in the anticipated Federal FY that the funds are needed. Given the Project's size, this will be quite important not only to ensure the availability of revenues as needed but also to help manage the impact of the Project on PennDOT's overall program. Figure 6-2 below shows the schedule of obligations for each segment of the Project, inflated to the year of obligation.

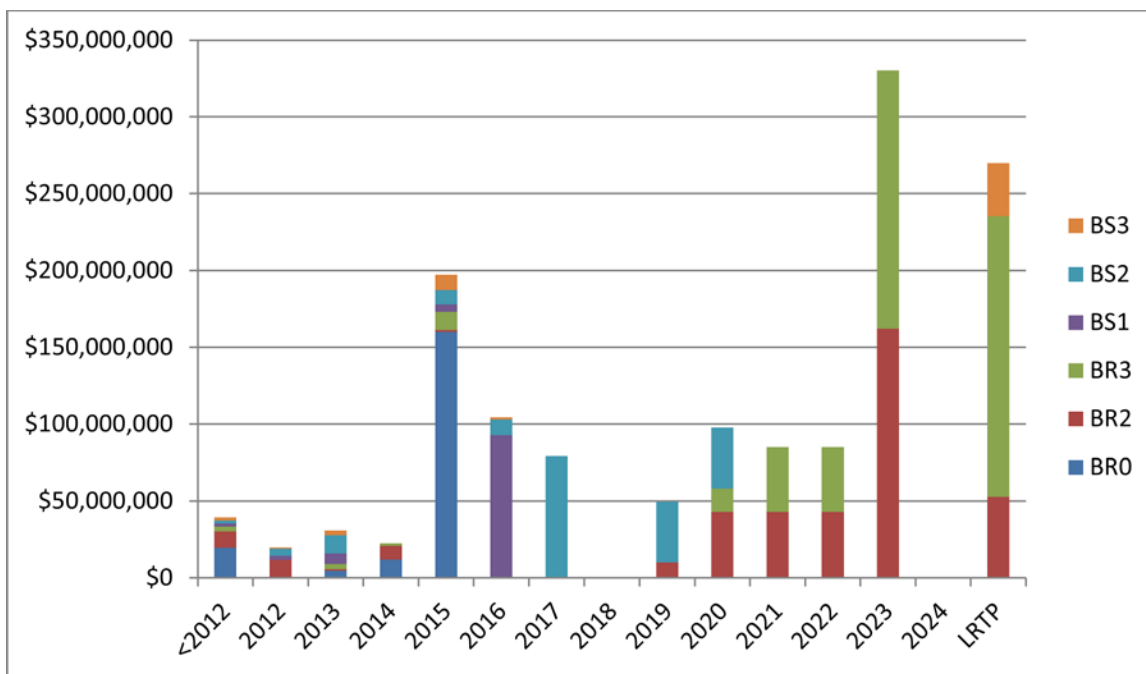


Figure 6-2: Total Project Annual Obligations by Segment

Planning for Cash Flow

For cash flow planning purposes, PennDOT looks at the individual segment schedules for the duration of each cost element. The funds are allocated among the anticipated state FYs that the expenditures will occur. The PennDOT District Fiscal 6-0 Officer makes adjustments as necessary to make sure all vendor payments are processed promptly in accordance with Pennsylvania law.

Cash flow by segment for the Project is shown Figure 6-3 on the next page in YOE dollars.

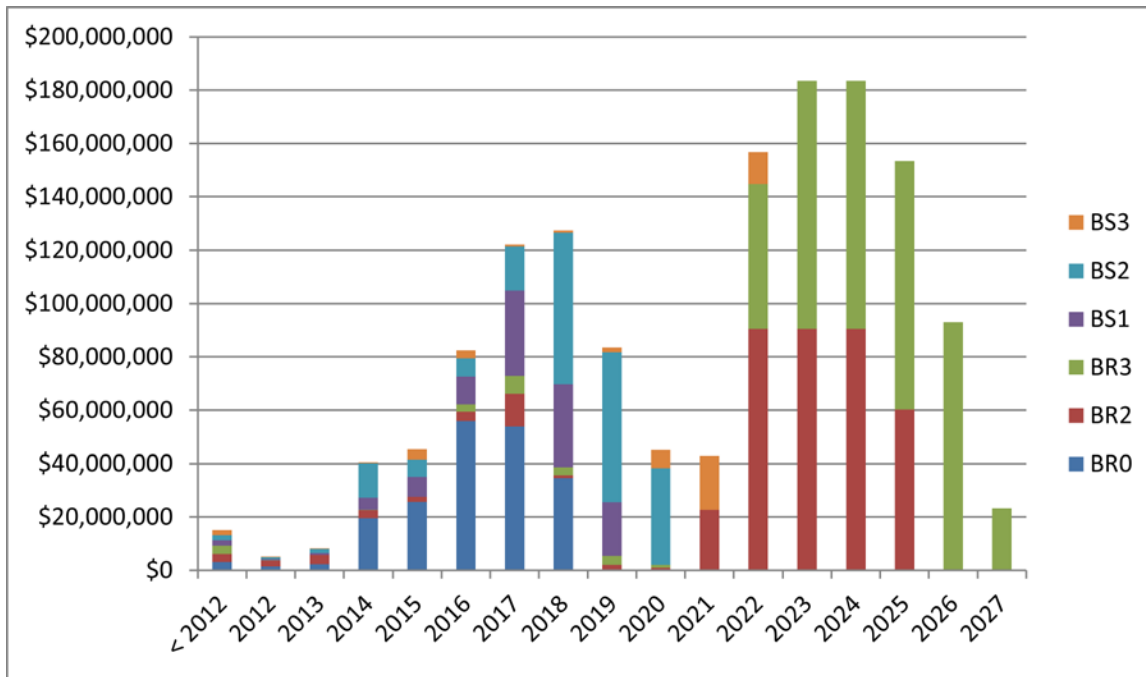


Figure 6-3: Total Project Cash Flow by Federal Fiscal Year (YOE dollars, in millions)

Table 6-1 below is a Cash Flow Analysis for the project. It shows the fund obligations by federal fiscal year and funding source (federal and state). It also shows the previously expended and projected expenditures by federal fiscal year. Finally it also shows the balance/carryover at the end of each federal fiscal year. Figure 6-4 pictorially demonstrates the relationship between obligations and cash flow. Obligations precede the need for cash and as such, PennDOT can ensure that cash is available to make vendor payments.

Table 6-1: Project Cash Flow Analysis by Federal Fiscal Year (YOE dollars in millions)

Project Available Revenues	< 2012	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Federal	\$27.1	\$16.7	\$32.6	\$14.14	\$176.9	\$94.1	\$71.3	\$0	\$44.7	\$88.0	\$76.6	\$76.6	\$297.2	\$0	\$144.0	\$95.4	\$0
State	\$12.3	\$3.2	\$4.2	\$2.4	\$20.4	\$10.5	\$7.9	\$0	\$5.0	\$9.8	\$8.5	\$8.5	\$33.0	\$0	\$16.0	\$14.4	\$0
Local	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$39.4	\$19.8	\$36.8	\$16.5	\$197.3	\$104.5	\$79.2	\$0	\$49.6	\$97.7	\$85.1	\$85.1	\$330.2	\$0	\$160.0	\$109.8	\$0
Carryover	\$0	\$24.2	\$39.0	\$67.5	\$43.5	\$195.5	\$217.5	\$174.6	\$47.3	\$13.3	\$66.0	\$108.1	\$36.5	\$183.2	\$0	\$6.5	\$23.3
Available	\$39.4	\$44.1	\$75.8	\$84.0	\$240.8	\$300.0	\$296.7	\$174.6	\$96.9	\$111.0	\$151.0	\$193.4	\$366.7	\$183.2	\$160.0	\$116.3	\$23.3
Expenditures	\$15.2	\$5.1	\$8.3	\$40.5	\$45.3	\$82.5	\$122.1	\$127.3	\$83.5	\$45.1	\$42.9	\$156.7	\$183.5	\$183.2	\$153.5	\$93.0	\$23.3
Balance	\$24.2	\$39.0	\$67.5	\$43.5	\$195.5	\$217.5	\$174.6	\$47.3	\$13.3	\$66.0	\$108.1	\$36.5	\$183.2	\$0	\$6.5	\$23.3	\$0

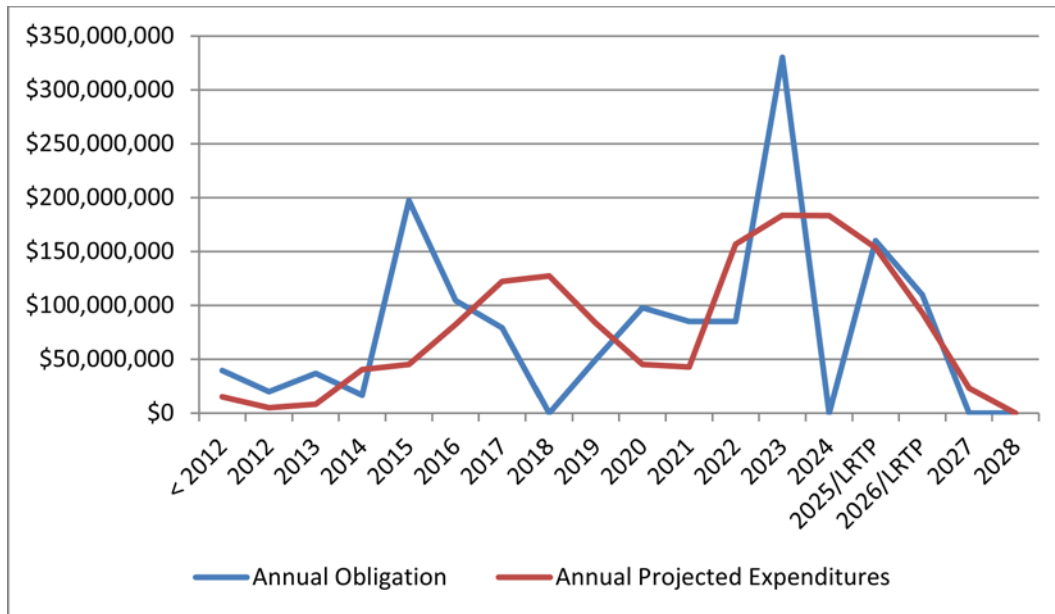


Figure 6-4: Obligations versus Cash Flow by Federal Fiscal Year (YOY dollars)

Interactions with State Transportation Programs, Budgets, and Other Projects

As described in this IFP, PennDOT has made specific commitments to the completion of the Project. Commitments are incorporated into the Interstate and DVRPC TIPs, TYP, and the LRTP, all of which are fiscally constrained. Figure 6-5 below shows the amount of funding needed for the Project in relation to all other funding available for the total capital program.

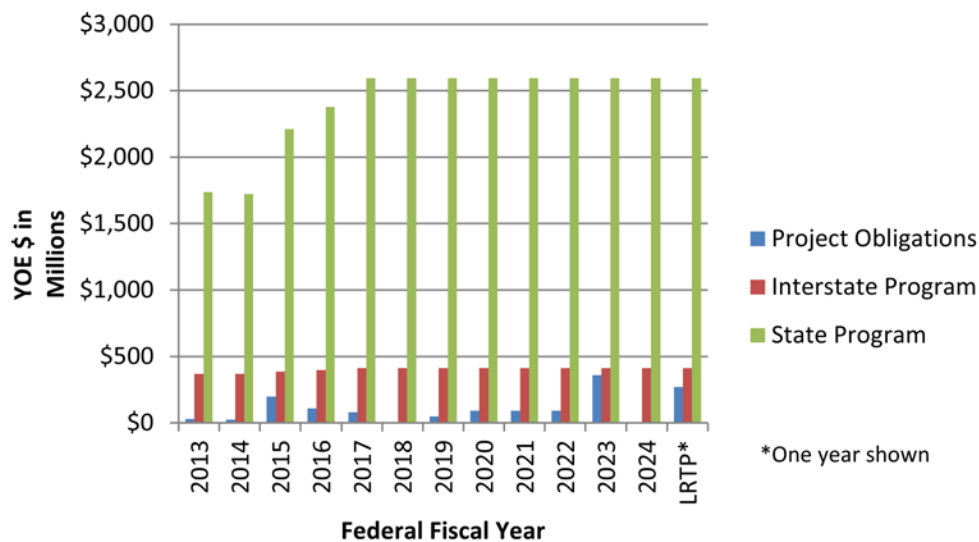


Figure 6-5: Funding Available for Program

Actual Cash Flow in Comparison to the Initial Financial Plan

This document is the Initial Financial Plan. This section is reserved for use in future Annual Updates. This section will compare the actual cash flow to the projection in the IFP.

Changes in Estimated Fund Availability and Expenditures

This section is reserved for use in future Annual Updates. Changes in estimated timing of fund availability (cash in obligations) and/or expenditures (cash flow out) since the IFP will be discussed.

Chapter 7 – Public Private Partnership (P3) Assessment

The legislative authority for PennDOT and other selected public entities in Pennsylvania to enter into agreements with private parties to fund, deliver, and operate transportation facilities is Act 88 of 2012. It was passed by the Pennsylvania General Assembly on June 30th and enacted into law on July 5th. The law allows for solicited and unsolicited proposals, establishes a review board and a process for screening and evaluating submissions, and gives terms and limits for procurement.

To date, no unsolicited proposals have been received for a project to reconstruct the Betsy Ross Interchange, any portion of I-95 Sections BRI or BSR, or any other portion of I-95 in Pennsylvania. No proposals under Act 88 for any of these construction projects have been solicited by PennDOT.

For a P3 type proposal to reconstruct any portion of I-95 within the project limits to be viable, a number of significant physical and regulatory issues would be encountered. Given that the capacity of the highway is not being increased beyond lane drops and interchange movements in the proposed design, highway widening and associated impacts would need to be considered as part of a monetization scheme. Even if widening was not an element of the strategy, then the traffic operations effects of tolling would need to be examined. Each issue raised would need some resolution such that it would not excessively restrict the revenue generating model under which the P3 proposal was made.

Many of these issues are outside the provisions of Act 88 and are listed below. The list is not intended to be exhaustive but representative:

- Significantly greater displacement of residences and business than the proposed design for additional lanes of a widened highway
- Additional ROW acquisitions for the enlargement of the project limits for additional lanes from properties having various regulatory or statutory protections such as parks, federally chartered railroads, and historic sites
- Stormwater effects and mitigations for increased impervious areas of a widened roadway
- Increased impacts of air quality and noise effects from additional lanes
- Impacts of diverted traffic from tolling on the local transportation network
- Populations meeting environmental justice criteria being impacted by tolling.

Outreach to stakeholders has not broached any of these issues. When project financing has been discussed in the course of responses to questions from residents, motorists, businesses, and elected officials, the means given are federal and state highway and bridge dollars.

Beyond both PennDOT and FHWA, the most significant project stakeholder for this project is the City of Philadelphia. City officials are aware of Act 88 and have expressed strong opinions about its possible implementation for the I-95 corridor.

Given these circumstances, it is a fair conjecture to make that any P3 proposal for this corridor project would affect the consensus for the project that has been built over the years by outreach to stakeholders and the general public. Timely project delivery would be negatively affected as a consequence.

Chapter 8 – Risk and Response Strategies

Introduction

This chapter addresses a number of important factors that could affect the Project and, in particular, the financial plan for the Project. These include cost and funding related risks and associated mitigation strategies, as well as interdependencies with the State's overall transportation program, budget, and other projects.

Cost escalation is a risk that can affect the overall ability to achieve expectations of completing a project on time and within budget. There needs to be a focus on the need for cost management and, in particular, a focus on identifying and mitigating cost related risks. All design and construction projects have risk elements that can affect costs and should be identified and mitigated to the greatest extent possible. These risk elements include, but are not limited to, project scope and design, ROW acquisition, National Environmental Policy Act (NEPA) litigation, permitting, schedules, contract packaging, and general and construction related inflationary pressures. The chapter briefly outlines areas of potential cost risks and possible mitigation measures PennDOT is currently considering and/or pursuing for the Project.

With six construction packages, careful attention needs to be given to design development and construction sequencing to keep the Project on schedule. The CERs identified all known major risk factors that may be present as the Project moves forward. Action will be taken early on those items that have the potential to increase cost or cause delay.

A Value Engineering Study was held for the BR0 segment of the Project. Future Value Engineering Studies will be held at the appropriate time. PennDOT will be utilizing its well established extensive QA/QC processes throughout the design and construction of this Project.

A CER was performed by the FHWA Major Projects Office from July 14-15, 2014. The objective of the CER was to verify the accuracy and reasonableness of the current Project total cost estimate and schedule, and to develop a probability range for the cost estimate, which represented the Project's current stage of development. Through this process, FHWA was able to determine the DER was developed at an appropriate level of detail and the estimated project cost appropriately represents the cost of the Project in YOE dollars.

To arrive at this conclusion, the Team, together with PennDOT experts, defined and discussed known and probable unknown risk elements. Following FHWA's process, costs were assigned to these risks and the corresponding contingency percentages were reduced. The result of this review on the estimated cost of the Project, in YOE dollars at the 70 percent confidence level.

Mitigation of Risks

The following is a list of various risks and possible mitigation strategies that were identified in the CER.

Table 8-1: Risks and Possible Mitigation Strategies

Phase	Functional Class	Event Risk Name	Detailed Description of Risk Event	Probability	Minimum Cost	Most Likely Cost	Maximum Cost
BRI	CN+CE+CO	Elastizell Quantities	Quantities may increase or need to use piles instead of Elastizell with further information and design efforts, includes changes to excavation and disposal cost.	0.9	\$2 M	\$2.8 M	\$5 M
BRI	CN+CE+CO	City of PWD Culvert	Relocation of city sewer and stormwater lines; includes coordination with City of Philadelphia and Conrail RR; DM5 classification of restrictive.	0.3	\$1 M	\$2 M	\$3 M
BRI	CN+CE+CO	Conrail RR Bridge	Additional cost due to current design level of 10% and continued coordination with RR. Options include shoofly and roll-in bridge. Cost includes hazardous materials, temporary track, and traffic control.	0.25	\$4 M	\$5 M	\$6 M
BSR	CN+CE+CO	Retaining Walls	Currently at 5% Level of Design. Pile supported, cast-in-place wall may be required in some locations due to geotechnical issues.	0.3	\$2 M	\$5 M	\$10 M
Global	UT+ROW	ROW	Additional cost due to unknown amount of relocations.	0.5	\$2 M	\$5 M	\$10 M
Global	CN+CE+CO	Stormwater management and drainage	Increased drainage quantities due to unknown conditions at the current 30% Design Level. Additional BMPs and drainage required to satisfy permitting.	0.9	\$5 M	\$10 M	\$20 M

Phase	Functional Class	Event Risk Name	Detailed Description of Risk Event	Probability	Minimum Cost	Most Likely Cost	Maximum Cost
Global	CN+CE+CO	Structures	Additional quantities or changes in structural designs. Most likely cost estimated at 17% increase in structures cost (additional \$50/sf over \$300/sf).	0.5	\$15 M	\$36 M	\$72 M
Global	CN+CE+CO	Unidentified Risks	Unknown unknowns	0.5	\$38.4 M	\$48 M	\$57.6 M
Global	CN+CE+CO	Aggregate Minor Risks	Aggregate minor threats-corridor enhancements	0.75	\$5.8 M	\$7.25 M	\$8.7 M
Global	CN+CE+CO	Details of ITS Design	Further coordination will continue as final design progresses.	0.75	\$2 M	\$5 M	\$8 M
Global	CN+CE+CO	Additional Traffic Control	Additional traffic control cost for coordination between I-95 projects above the typical 3.5%.	0.75	\$5 M	\$10 M	\$20 M
Global	UT+ROW	Utility	Unknown conditions not identifiable by SUE. Additional utility relocations may be required.	0.75	\$5 M	\$10 M	\$15 M
Global	CN+CE+CO	Hazardous Waste Removal	Excavation not suitable for reuse.	1	\$20 M	\$40 M	\$80 M
Global	CN+CE+CO	Change Order	Based on average % that District 6 experiences. Low of 3% and high of 7%.	1	\$29.8 M	\$49.6 M	\$69.4 M

Schedule

Due to the current packaging of the project into six construction segments and the significant float built into the 12-year schedule to accommodate funding constraints, it was decided it was not appropriate to conduct a rigorous schedule analysis during this review. Schedule threats were reviewed and two possible threats were identified as follows:

- Differing Site conditions with a probability of occurrence of 50% resulting in a delay of approximately 6 months
- Delays as a result of the obtaining of permits for the PUC, Utilities and ROW. It was determined that the probability of occurrence for this was 60% resulting in a delay of approximately 6 months.

As the current project schedule is mostly driven by funding availability, it should be noted that the schedule could be shortened should more funding become available. Advanced funding scenarios

were not modeled. The project team anticipates changes to the schedule. Quantitative schedule analyses in the future may be appropriate as the schedule is refined.

Because of the current development stage of the project and duration of the project, the CER project team agreed that it would be beneficial to analyze the effects of the schedule delay on the cost estimate. It was determined that a one-year delay in the start of construction as outlined in the current project schedule would increase project cost by approximately \$22 million due to inflation.

Construction Packaging

Packaging of bid documents can have a positive or negative impact on construction cost. Various bidding strategies will be considered when deciding how to structure the construction packages. These include, but may not be limited to, exploring opportunities to utilize competitive bidding, use of local contractors, optimization of alternate construction methods, potential incentive/disincentive clauses, and pursuit of the most advantageous scheduling options.

Inflation

The inflation rate used in the analysis for the project was based on historical trends in construction costs. PennDOT is currently using a 3 percent annual inflation rate in the development of the TYP. In the Philadelphia area, this is higher than the current Consumer Price Index (CPI). Three percent has been used in the PennDOT estimates for the project.

Funding Risks and Mitigation Strategies

As with any major construction project, there are uncertainties associated with project funding. Following is a review of the key funding-related project risks and associated mitigation strategies PennDOT is considering and/or actively pursuing to address these risks.

Risk of Non-Appropriation of Funds

The greatest financial risk for a project expected to span over 12 years for full completion of construction is the risk federal and state funds may not be available to support appropriations.

Risk of Delays in Funding Availability

A recognized funding risk includes delays in funding due to federal and/or state funding lapses, competition for available funding at the federal level, and the risk that revenues may not be at projected rates.

Mitigation Strategies

All projects are subject to unknowns. PennDOT will carefully monitor the progress of the Project elements to identify, evaluate, and mitigate the impacts of unknowns as necessary throughout the life of the Project. PennDOT will employ mitigation strategies in an effort to contain the Project costs within the estimates and the contingencies currently established.

Despite the application of appropriate cost management and mitigation strategies, costs may increase above estimates. To alleviate this possibility, PennDOT will follow FHWA's cost estimating guidance and employ risk based cost assessment methodologies to the extent appropriate.

PennDOT is fully committed to the Project and intends to continue to make funds available to meet project needs and schedules. PennDOT will continue to consider alternative funding structures, as appropriate.

Chapter 9 – Annual Update Cycle

Financial Plan Updates

PennDOT plans to provide Annual Updates to this Financial Plan based on the anniversary date method. The anniversary date of this IFP is December 31, 2015. The first annual update will be submitted by December 31, 2015 and will be based on a “data as of” date of September 30, 2015. Future annual updates will be submitted by December 31 of that year, with a “data as of” date of September 30 of that year. Examples of items that will be expanded upon in the Annual Updates, based on the anticipated progress on the Project, are:

- Updates to the Project schedule detailing those segments of the Project which will be advanced as funding becomes available
- Updates to cost estimates based on the completion of more detailed design work and re-estimation of unit costs, as well as continued monitoring of inflationary forces
- More detailed cash flow forecasting (i.e., of anticipated encumbrances/obligations as distinct from anticipated cash needs)
- Tracking of actual expenditures against projected cash flow needs
- Tracking of actual revenues against projected funding and updated project costs as well as strategies to address any funding shortfalls, as necessary
- Incorporation of any additional funding sources and/or financing approaches to address any funding gaps that may have developed since this IFP.

Given the importance of managing overall costs, PennDOT will continue to make efforts to incorporate alternative funding and finance approaches to help manage the impact of inflation on overall project costs.

Chapter 10 – Summary of Cost Changes since Previous FP

Since this is the Initial Financial Plan, this chapter will be completed in the subsequent Annual Updates.

Chapter 11 – Cost and Funding Trends since IFP

Since this is the Initial Financial Plan, this chapter will be completed in the subsequent Annual Updates.

Chapter 12 – Schedule Changes since Previous FP

Since this is the Initial Financial Plan, this chapter will be completed in the subsequent Annual Updates.

Chapter 13 – Schedule Trends since IFP

Since this is the Initial Financial Plan, this chapter will be completed in the subsequent Annual Updates.

Sponsor Letter of Certification



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
HARRISBURG, PENNSYLVANIA 17120

OFFICE OF
SECRETARY OF TRANSPORTATION

July 30, 2014

Ms. Renee Siegel, Division Administrator
U.S. Department of Transportation
Federal Highway Administration
228 Walnut Street, Room 508
Harrisburg, Pennsylvania 17105-1720

Attention: Mr. George B. Fleagle, P.E.

RE: Philadelphia County
SR 0095 Sections BRI and BSR
Initial Financial Plan

Dear Ms. Siegel:

The Pennsylvania Department of Transportation has developed a comprehensive Financial Plan for the SR 0095 Section BRI and BSR project in accordance with the requirements of Section 106, Title 23, United States Code, and the Financial Plan guidance issued by the Federal Highway Administration. The plan provides detailed cost estimates to complete the project and the estimates of financial resources to be utilized to fully finance the project.

The cost data in the Financial Plan provide an accurate accounting of costs incurred to date and include a realistic estimate of future costs based on engineer's estimates and expected construction cost escalation factors. While the estimates of financial resources rely upon assumptions regarding future economic conditions and demographic variables, they represent realistic estimates of resources available to fund the project as described.

The Pennsylvania Department of Transportation believes the Financial Plan provides an accurate basis upon which to schedule and fund the SR 0095 Section BRI and BSR project, and commits to provide Annual Updates according to the schedule in the Initial Financial Plan.

To the best of our knowledge and belief, the Financial Plan as submitted herewith, fairly and accurately presents the financial position of the SR 0095 Section BRI and BSR project, cash flows, and expected conditions for the project's life cycle. The financial forecasts in the Financial Plan are based on our judgment of the expected

Ms. Renee Sigel
Page 2
July 30, 3014

project conditions and our expected course of action. We believe that the assumptions underlying the Financial Plan are reasonable and appropriate. Further, we have made available all significant information that we believe is relevant to the Financial Plan and, to the best of our knowledge and belief, the documents and records supporting the assumptions are appropriate.

If you have any questions or desire additional information, please contact Mr. James Ritzman, P.E. at 717.787.3154.

Sincerely,

A handwritten signature in dark ink, appearing to read "Barry J. Schoch", with a stylized flourish at the end.

Barry J. Schoch, P.E.
Secretary of Transportation

Ms. Renee Sigel
Page 3
July 30, 2014

2000/BJS/JDR/kah

\\Pdkbhome2k01\user3\khnatuc\Barry's letter\Renee Sigel-95 BSR BRI IFP Secretary's
Certification 7-30-14.docx

bcc: James D. Ritzman, P.E., Deputy Secretary for Planning
R. Scott Christie, P.E., Deputy Secretary for Highway Administration
Les Toaso, District 6-0 Executive
Charles H. Davies, P.E., Engineering District 6-0
James Mosca, Center for Program Development and Management
Kristin Mulkerin, Center for Program Development and Management
Paul L. Shultes, Engineering District 6-0
Keith Highlands, Bureau of Project Delivery
Edna Weaver, Office of the Secretary
Karen Heath, Office of the Deputy Secretary for Planning

Glossary

AFC – Allegheny Avenue Interchange

BRI – Betsy Ross Bridge Interchange Project

BSR – Bridge Street Ramps Interchange Project

CEE – Categorical Exclusion Evaluation

CEES – Categorical Exclusion Evaluation Expert System

CER – Cost Estimate Review

CPI – Consumer Price Index

CPR – Cottman Avenue/Princeton Avenue Interchange

DER – Detailed Engineering Report

DVRPC – Delaware Valley Regional Planning Commission

ECMS – Engineering and Construction Management System

EPE – Early Preliminary Engineering

FD – Final Design

FHWA – Federal Highway Administration

FY – Fiscal Year

GIR – Girard Avenue Interchange

IFP – Initial Financial Plan

ITS – Intelligent Transportation System

LRTP – Long Range Transportation Plan

MAP-21 – Moving Ahead for Progress in the 21st Century Act

MOA – Memorandum of Agreement

MPMS – Multimodal Project Management System

NEPA – National Environmental Policy Act

P3 – Public Private Partnership

PE – Preliminary Engineering Road and Bridge

PennDOT – Pennsylvania Department of Transportation

PGW – Philadelphia Gas Works

PMP – Project Management Plan

POA – Point of Access

Project – I-95 Betsy Ross Interchange (BRI) and Bridge Street Ramps (BSR)

PWD – Philadelphia Water Department

ROW – Right of Way

SAFETEA-LU – Section 1904 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users

STIP – State Transportation Improvement Plan

TEA-21 – Transportation Equity Act for the 21st Century

TIP – Transportation Improvement Plan

TYP – Twelve Year Plan

UTL – Utilities

YOE – Year of Expenditure

APPENDIX A. PROJECT FUNDING EXCERPTS FROM TIP/STIP, TYP and LRTP

From: Mulkerin, Kristin
Sent: Monday, July 28, 2014 12:49 PM
To: Shultes, Paul L
Cc: Davies, Charles; Elbich, Elaine; Guarini, Linda; Pintar, Robert W (pintarrw@cdmsmith.com)
Subject: RE: 95 BSR and BRI - FHWA Cost Estimate Review - Impacts to Long Range Transportation Plan

Good Afternoon Paul,

I apologize for the delayed response.

As you noted below, MPMS 79905 (95 BR3) is already cash-flowed into the LRTP. The additional funding for both MPMS 79904 (95 BR2) and MPMS 79905 (95 BR3) will also be included in the LRTP. The Statewide LRTP (which includes the Interstate Program) is currently being updated and we anticipate it being adopted this fall.

I have attached a revised spreadsheet that captures the funds being cash-flowed (Excel is filtered for District 6 projects being cash-flowed into LRTP).

If you require anything else or have any questions, please let me know.

Kristin A. Mulkerin | Transportation Planning Manager
PA Department of Transportation | Center for Program Development and Management
Transportation Program Development Division | Interstate/Statewide Section
400 North Street, 6th Floor | Harrisburg PA 17120
Phone: 717.783.2430 | Fax: 717.787.5247
www.dot.state.pa.us

From: Shultes, Paul L
Sent: Monday, July 21, 2014 9:45 AM
To: Mulkerin, Kristin
Cc: Davies, Charles; Elbich, Elaine; Guarini, Linda; Pintar, Robert W (pintarrw@cdmsmith.com)
Subject: 95 BSR and BRI - FHWA Cost Estimate Review - Impacts to Long Range Transportation Plan
Importance: High

Kristin –

As you know the second FHWA Cost Estimate Review was held last week (7/14 and 7/15).

In summary, the impact is that \$105,378,601 in additional funding is needed on the Long Range Transportation Plan. (I'm assuming the 2015-2026 TYP is final at this time.)

The CER does not break down the additional cost into specific phases. To minimize the amount of "number chasing" and since approximately 85% of the total costs are related to construction, I have focused on the CON phases of 79904 (95 BR2) and 79905 (95 BR3).

The details are as follows:

MPMS 79904 (95 BR2)

The TOTAL YOE cost of the CON phase is now \$354,221,501. The programmed amount on the 2015-2026 TYP is \$301,411,264. So the additional need is \$52,810,237.

The let date should be changed to 2/1/2021.

If you need to determine a CON phase estimate in current dollars, please back-calculate that. The YOE of \$354,221,501 is what FHWA wants to see is funded.

MPMS 79905 (95 BR3)

The TOTAL YOE cost of the CON phase is now \$449,605,622. The programmed amount on the 2015-2026 TYP is \$267,037,258. \$130,000,000 is already cash-flowed onto the LRTP. So the additional need is \$52,568,364.

The let date should be changed to 9/1/2021.

If you need to determine a CON phase estimate in current dollars, please back-calculate that. The YOE of \$449,605,622 is what FHWA wants to see is funded.

What I need is an e-mail confirmation from you that these additional funds are on the fiscally constrained Long Range Transportation Plan. I will attach that e-mail to the Initial Financial Plan in the Appendix that shows the Interstate TIP and TYP.

If you have any questions, please contact me. Thanks!

Paul L. Shultes, P.E. | Consultant Project Manager
PA Department of Transportation
Engineering District 6-0
7000 Geerdes Blvd. | King of Prussia, PA 19406
Phone: 610.757.1885 | Fax: 610.205.6904
www.dot.state.pa.us

								TIP			
District	County	State Route	Section	Project Id	Project Title	Phase	Phase Estimate	2015	2016	2017	2018
5	Monroe	80	17M	76357	I-80 Recnstruction-Monroe	CON	\$510,000,000	\$0	\$0	\$0	\$0
6	Philadelphia	95	AF2	79912	I-95: Allegheny Ave Inter	CON	\$236,000,000	\$0	\$0	\$0	\$0
6	Philadelphia	95	BR3	79905	I-95: Betsy Ross Mainline	CON	\$330,000,000	\$0	\$0	\$0	\$0
6	Philadelphia	95	GR5	79828	I-95: Race - Shackamaxon	CON	\$315,000,000	\$0	\$0	\$0	\$0
6	Philadelphia	8017	BR2	79904	I-95:O/H Brs, Rmps, Adams	CON	\$260,000,000	\$0	\$0	\$0	\$0

TIP	2nd 4 Years of TYP					3rd 4 Years of TYP					
2018	2019	2020	2021	2022	2023-2026	TYP Total	Byond TYP (LRTP)	CPDM Comment			
\$0	\$0	\$0	\$0	\$0	\$180,397,353	\$180,397,353	\$505,000,000	Project Cash-flowed in to LRTP (\$180,000,000 in 2027-2030, \$180,000,000 in 2031-2034 & \$145,000,000 in 2035-2038)			
\$0	\$0	\$0	\$0	\$0	\$120,164,265	\$120,164,265	\$197,000,000	Project Cash-flowed in to LRTP (\$160,000,000 in 2027-2030 & \$37,000,000 2031-2034)			
\$0	\$0	\$15,037,258	\$42,000,000	\$42,000,000	\$168,000,000	\$267,037,258	\$182,568,364	Project Cash-flowed in to LRTP (\$182,568,364 in 2027-2030) [Rev 7/28/14 due to FHWA Cost Est Review]			
\$0	\$0	\$0	\$10,410,267	\$48,000,000	\$192,000,000	\$250,410,267	\$137,000,000	Project Cash-flowed in to LRTP (\$137,000,000 in 2027-2030)			
\$0	\$10,000,000	\$40,000,000	\$40,000,000	\$40,000,000	\$171,411,259	\$301,411,259	\$52,810,237	Project Cash-flowed in to LRTP (\$52,810,237 in 2027-2030) [Rev 7/28/14 due to FHWA Cost Est Review]			

From: Boyer, Mike [mboyer@dvrpc.org]
Sent: Tuesday, May 27, 2014 2:15 PM
To: Guarini, Linda; Fusco, Brett
Cc: Shultes, Paul L.
Subject: RE: Long Range Plan status

Linda and Paul,

We have revised the limits of work that is able to be completed on I-95 in the fiscally-constrained Long-Range Plan. The new description reads: "Reconstruct I-95 from Race Street to State Street; with interchange improvements at Vine, Girard, Allegheny, Betsy Ross Bridge, Bridge, and Cottman interchanges." This would include sections CPR, BSR, BRI, AFC, and GIR on this map. Click [here](#).

Cost for this section is \$2,140,000,000 with work taking place in the 2014-2030 timeframe.

With the additional funding from Act 89, we are now also able to add reconstruction of I-95 from Queen Street to the Girard Point Bridge to the fiscally-constrained Plan. Cost for this section is \$4,450,000,000 with work taking place between 2031 and 2040.

Please let me know if this reflects your reality or if you would like to discuss further.

As an aside, are you looking at incorporating any hard-shoulder running on these sections of I-95? We currently have a project listed in the unfunded vision plan for hard-shoulder running on I-95 in Philadelphia southbound from Woodhaven Road to Cottman/Princeton Avenue (Exit 35 to Exit 30) and northbound from Broad Street to I-676 (Exit 17 to Exit 22).

MICHAEL BOYER

Manager, Office of Long-Range Planning & Economic Coordination

DELAWARE VALLEY REGIONAL PLANNING COMMISSION

190 N. Independence Mall West – 8th Floor
Philadelphia, PA 19106-1520

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Fax – 215.592.9125

Web – www.dvrpc.org

CONNECTIONS 2040 Plan for Greater Philadelphia

									First Four Years						Second Four Years						Third Four Years							
County	District	S.R.	Sec.	Project	Project Title	Ph	Area	Year	Fed.	Federal	St.	State	Local	Total	Fed.	Federal	St.	State	Local	Total	Fed.	Federal	St.	State	Local	Total	Totals	^Milestones
Delaware	6	95	322	15477	I95/US322 Interchnng Imprv	P	IMAN	2023															581	3,000,000		3,000,000	3,000,000	05/16/2016 E
Totals for: Delaware																								3,000,000		3,000,000	3,000,000	3,000,000
Montgomery	6	76	0	91571	I76 o/ Mill Cr & Mill Rd	P	IMAN	2015			185	566,500		566,500													566,500	
Montgomery	6	76	0	91571	I76 o/ Mill Cr & Mill Rd	F	IMAN	2015			185	1,021,700		1,021,700													1,021,700	
Montgomery	6	76	0	91571	I76 o/ Mill Cr & Mill Rd	U	IMAN	2015			185	109,272		109,272													109,272	
Montgomery	6	76	0	91571	I76 o/ Mill Cr & Mill Rd	R	IMAN	2015			185	109,272		109,272													109,272	
Montgomery	6	76	0	91571	I76 o/ Mill Cr & Mill Rd	C	IMAN	2020									185	6,567,288		6,567,288							6,567,288	06/13/2019 E
Montgomery	6	76	RFR	90099	I-76 o/ Righters Ferry Rd	P	IMAN	2015			185	463,500		463,500													463,500	
Montgomery	6	76	RFR	90099	I-76 o/ Righters Ferry Rd	F	IMAN	2015			185	835,937		835,937													835,937	
Montgomery	6	76	RFR	90099	I-76 o/ Righters Ferry Rd	U	IMAN	2015			185	109,272		109,272													109,272	
Montgomery	6	76	RFR	90099	I-76 o/ Righters Ferry Rd	R	IMAN	2015			185	109,272		109,272													109,272	
Montgomery	6	76	RFR	90099	I-76 o/ Righters Ferry Rd	C	IMAN	2020									185	5,871,479		5,871,479							5,871,479	06/13/2019 E
Montgomery	6	76	WAV	90100	I-76 o/ Waverly Road	P	IMAN	2015			185	360,500		360,500													360,500	
Montgomery	6	76	WAV	90100	I-76 o/ Waverly Road	F	IMAN	2015			185	650,172		650,172													650,172	
Montgomery	6	76	WAV	90100	I-76 o/ Waverly Road	U	IMAN	2015			185	109,272		109,272													109,272	
Montgomery	6	76	WAV	90100	I-76 o/ Waverly Road	R	IMAN	2015			185	109,272		109,272													109,272	
Montgomery	6	76	WAV	90100	I-76 o/ Waverly Road	C	IMAN	2020									185	4,179,183		4,179,183							4,179,183	06/13/2019 E
Totals for: Montgomery												4,553,941		4,553,941				16,617,950		16,617,950							21,171,891	21,171,891
Philadelphia	6			102305	I-95 Corridor ITS/ATMS	+C	IMAN	2015	NHPP	6,365,400				6,365,400													6,365,400	12/17/2015 E
Philadelphia	6			102309	I-95 Corridor Drainage	C	IMAN	2015			581	5,463,636		5,463,636													5,463,636	06/23/2016 E
Philadelphia	6	76	PC2	102389	I-76/I-76Ramp Resurfacng	C	IMAN	2015			581	750,000		750,000													750,000	08/28/2014 E
Philadelphia	6	95	0	102304	I-95 Race - Shackamaxon 2	+C	IMAN	2020							NHPP	11,940,523				11,940,523							11,940,523	07/18/2019 E
Philadelphia	6	95	AF1	79911	I-95: Allegheny AdvCntrc	U	IMAN	2019									581	8,114,919		8,114,919							8,114,919	
Philadelphia	6	95	AF1	79911	I-95: Allegheny AdvCntrc	R	IMAN	2019									581	8,114,919		8,114,919							8,114,919	
Philadelphia	6	95	AF1	79911	I-95: Allegheny AdvCntrc	+C	IMAN	2023													NHPP	56,444,487				56,444,487	56,444,487	07/13/2017 E
Philadelphia	6	95	AF2	79912	I-95: Allegheny Ave Inter	U	IMAN	2020									581	5,970,261		5,970,261							5,970,261	
Philadelphia	6	95	AF2	79912	I-95: Allegheny Ave Inter	R	IMAN	2020									581	13,134,576		13,134,576							13,134,576	
Philadelphia	6	95	AF2	79912	I-95: Allegheny Ave Inter	+C	IMAN	2023													NHPP	120,164,265				120,164,265	120,164,265	01/02/2020 E
Philadelphia	6	95	AFC	47813	I-95: Ann St -Wheatsheaf	P	IMAN	2018			581	3,500,000		3,500,000													3,500,000	
Philadelphia	6	95	AFC	47813	I-95: Ann St -Wheatsheaf	P	IMAN	2020									581	3,562,552		3,562,552							3,562,552	
Philadelphia	6	95	AFC	47813	I-95: Ann St -Wheatsheaf	F	IMAN	2019									581	34,000,000		34,000,000							34,000,000	
Philadelphia	6	95	AFC	47813	I-95: Ann St -Wheatsheaf	F	IMAN	2023															581	22,340,720		22,340,720	22,340,720	
Philadelphia	6	95	AFC	47813	I-95: Ann St -Wheatsheaf	U	IMAN	2019									581	3,914,320		3,914,320							3,914,320	
Philadelphia	6	95	AFC	47813	I-95: Ann St -Wheatsheaf	R	IMAN	2019									581	4,637,097		4,637,097							4,637,097	
Philadelphia	6	95	BR0	79903	I-95: Betsy Ross Brg Rmps	+C	IMAN	2015	NHPP	160,000,000				160,000,000													160,000,000	10/30/2014 E
Philadelphia	6	95	BR3	79905	I-95: Betsy Ross Mainline	+C	IMAN	2020							NHPP	99,037,258				99,037,258							99,037,258	01/02/2020 E
Philadelphia	6	95	BR3	79905	I-95: Betsy Ross Mainline	+C	IMAN	2023													NHPP	168,000,000				168,000,000	168,000,000	01/02/2020 E
Philadelphia	6	95	BR1	47812	I-95: BetsyRoss Design	F	IMAN	2015	NHPP	5,600,000	581	1,400,000		7,000,000													7,000,000	
Philadelphia	6	95	BR1	47812	I-95: BetsyRoss Design	U	IMAN	2016	NHPP*	5,760,000	581*	1,440,000		7,200,000													7,200,000	
Philadelphia	6	95	BR1	47812	I-95: BetsyRoss Design	R	IMAN	2015	NHPP	5,635,323	581	626,147		6,261,470													6,261,470	
Philadelphia	6	95	BS1	79908	I-95: Kennedy-Levick	+C	IMAN	2016	NHPP	88,054,700				88,054,700													88,054,700	01/08/2016 E
Philadelphia	6	95	BS2	79910	I-95: Margaret-Kennedy	+C	IMAN	2017	NHPP	79,222,708				79,222,708													79,222,708	01/14/2017 E
Philadelphia	6	95	BS2	79910	I-95: Margaret-Kennedy	+C	IMAN	2019							NHPP	79,222,708				79,222,708							79,222,708	01/14/2017 E
Philadelphia	6	95	BSR	47811	I-95: Bridge St Design	F	IMAN	2016	NHPP*	13,230,000	581*	1,470,000		14,700,000													14,700,000	
Philadelphia	6	95	BSR	47811	I-95: Bridge St Design	U	IMAN	2015	NHPP	14,180,838	581	1,575,649		15,756,487													15,756,487	

									First Four Years						Second Four Years						Third Four Years							
County	District	S.R.	Sec.	Project	Project Title	Ph	Area	Year	Fed.	Federal	St.	State	Local	Total	Fed.	Federal	St.	State	Local	Total	Fed.	Federal	St.	State	Local	Total	Totals	^Milestones
Philadelphia	6	95	BSR	47811	I-95: Bridge St Design	R	IMAN	2015	NHPP	9,029,572	581	1,003,287		10,032,859													10,032,859	
Philadelphia	6	95	CMP	98207	I-95 Congestion Managemnt	P	PRA	2015	NHPP	23,400,000				23,400,000													23,400,000	
Philadelphia	6	95	CP2	79685	Cttmn-Prnc Main Ln Rmp(C)	C	IMAN	2015	NHPP	12,600,000	581	1,400,000		14,000,000													14,000,000	05/17/2012 A
Philadelphia	6	95	CPR	47394	I-95: Levick St - Bleigh	U	IMAN	2015	NHPP	3,600,000	581	400,000		4,000,000													4,000,000	
Philadelphia	6	95	GR2	83640	I-95 Shackama-Columbia(C)	C	IMAN	2015			581	250,000		250,000													250,000	08/09/2012 A
Philadelphia	6	95	GR2	83640	I-95 Shackama-Columbia(C)	C	IMAN	2015	NHPP	4,500,000	185	250,000		4,750,000													4,750,000	08/09/2012 A
Philadelphia	6	95	GR3	79826	I-95N:Columbia-AnnSt N(C)	C	IMAN	2015	NHPP*	147,129,629				147,129,629													147,129,629	10/31/2013 A
Philadelphia	6	95	GR4	79827	I-95S: Columbia-Ann St N	U	IMAN	2016	NHPP	8,593,290	581	954,810		9,548,100													9,548,100	
Philadelphia	6	95	GR4	79827	I-95S: Columbia-Ann St N	+C	IMAN	2015	NHPP	10,000,000				10,000,000													10,000,000	10/26/2017 E
Philadelphia	6	95	GR4	79827	I-95S: Columbia-Ann St N	+C	IMAN	2019							NHPP	180,000,000				180,000,000							180,000,000	10/26/2017 E
Philadelphia	6	95	GR4	79827	I-95S: Columbia-Ann St N	+C	IMAN	2023													NHPP	180,067,296				180,067,296	180,067,296	10/26/2017 E
Philadelphia	6	95	GR5	79828	I-95: Race - Shackamaxon	U	IMAN	2019							NHPP	10,433,467	581	1,159,274		11,592,741							11,592,741	
Philadelphia	6	95	GR5	79828	I-95: Race - Shackamaxon	R	IMAN	2016	NHPP	28,644,300	581	3,182,700		31,827,000													31,827,000	
Philadelphia	6	95	GR5	79828	I-95: Race - Shackamaxon	+C	IMAN	2021							NHPP	58,410,267				58,410,267							58,410,267	03/02/2017 E
Philadelphia	6	95	GR5	79828	I-95: Race - Shackamaxon	+C	IMAN	2023													NHPP	192,000,000				192,000,000	192,000,000	03/02/2017 E
Philadelphia	6	95	VAG	86046	Girard Point Br Paint(C)	+C	IMAN	2015	NHPP	4,500,000				4,500,000													4,500,000	07/23/2009 A
Philadelphia	6	8017	BR2	79904	I-95:O/H Brs, Rmps, Adams	+C	IMAN	2019							NHPP	130,000,000				130,000,000							130,000,000	01/04/2018 E
Philadelphia	6	8017	BR2	79904	I-95:O/H Brs, Rmps, Adams	+C	IMAN	2023													NHPP	171,411,259				171,411,259	171,411,259	01/04/2018 E
Totals for: Philadelphia										630,045,760		23,666,229		653,711,989		569,044,223		82,607,918		651,652,141		888,087,307		22,340,720		910,428,027	2,215,792,157	2,215,792,157
Overall Totals:										630,045,760		28,220,170		658,265,930		569,044,223		99,225,868		668,270,091		888,087,307		25,340,720		913,428,027	2,239,964,048	2,239,964,048

* Includes Conversion Amount

+ Indicates phase qualifies for TOLL funds

^PE-NEPA, FD-PSE CO, UTL-FnL UTL Clr, ROW-Cond ROW, CON-Let

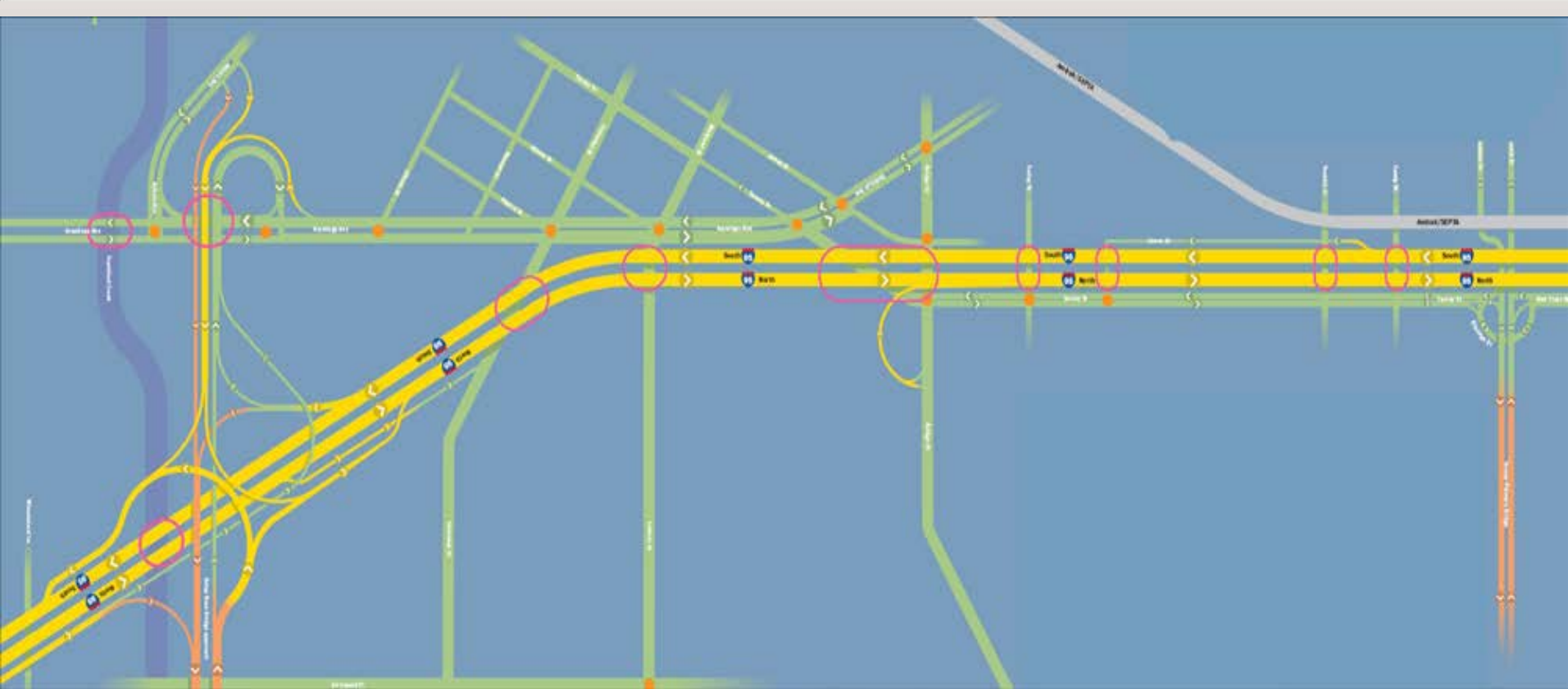
							FFY 2019 Costs						FFY 2020 Costs						FFY 2021 Costs						FFY 2022 Costs							
County	S.R.	Sec.	Project	Project Title	Ph	Area	Fed.	Federal	St.	State	Local	Total	Fed.	Federal	St.	State	Local	Total	Fed.	Federal	St.	State	Local	Total	Fed.	Federal	St.	State	Local	Total	^Milestones	
Montgomery	76	0	91571	I76 o/ Mill Cr & Mill Rd	C	IMAN									185	6,567,288		6,567,288													06/13/2019 E	
Montgomery	76	RFR	90099	I-76 o/ Righters Ferry Rd	C	IMAN									185	5,871,479		5,871,479													06/13/2019 E	
Montgomery	76	WAV	90100	I-76 o/ Waverly Road	C	IMAN									185	4,179,183		4,179,183													06/13/2019 E	
Totals for: Montgomery																16,617,950		16,617,950													16,617,950	
Philadelphia	95	0	102304	I-95 Race - Shackamaxon 2	+C	IMAN							NHPP	5,970,262				5,970,262													07/18/2019 E	
Philadelphia	95	0	102304	I-95 Race - Shackamaxon 2	+C	IMAN													NHPP	5,970,261				5,970,261							07/18/2019 E	
Philadelphia	95	AF1	79911	I-95: Allegheny AdvCntre	U	IMAN			581	8,114,919		8,114,919																				
Philadelphia	95	AF1	79911	I-95: Allegheny AdvCntre	R	IMAN			581	8,114,919		8,114,919																				
Philadelphia	95	AF2	79912	I-95: Allegheny Ave Inter	U	IMAN									581	5,970,261		5,970,261														
Philadelphia	95	AF2	79912	I-95: Allegheny Ave Inter	R	IMAN									581	13,134,576		13,134,576														
Philadelphia	95	AFC	47813	I-95: Ann St -Wheatsheaf	F	IMAN			581	4,000,000		4,000,000																				
Philadelphia	95	AFC	47813	I-95: Ann St -Wheatsheaf	F	IMAN									581	10,000,000		10,000,000														
Philadelphia	95	AFC	47813	I-95: Ann St -Wheatsheaf	F	IMAN															581	10,000,000		10,000,000								
Philadelphia	95	AFC	47813	I-95: Ann St -Wheatsheaf	F	IMAN																					581	10,000,000		10,000,000		
Philadelphia	95	AFC	47813	I-95: Ann St -Wheatsheaf	R	IMAN			581	2,637,097		2,637,097																				
Philadelphia	95	AFC	47813	I-95: Ann St -Wheatsheaf	R	IMAN									581	2,000,000		2,000,000														
Philadelphia	95	AFC	47813	I-95: Ann St -Wheatsheaf	P	IMAN									581	3,562,552		3,562,552														
Philadelphia	95	AFC	47813	I-95: Ann St -Wheatsheaf	U	IMAN			581	2,914,320		2,914,320																				
Philadelphia	95	AFC	47813	I-95: Ann St -Wheatsheaf	U	IMAN									581	1,000,000		1,000,000														
Philadelphia	95	BR3	79905	I-95: Betsy Ross Mainline	+C	IMAN							NHPP	15,037,258				15,037,258													01/02/2020 E	
Philadelphia	95	BR3	79905	I-95: Betsy Ross Mainline	+C	IMAN													NHPP	42,000,000				42,000,000							01/02/2020 E	
Philadelphia	95	BR3	79905	I-95: Betsy Ross Mainline	+C	IMAN																			NHPP	42,000,000				42,000,000	01/02/2020 E	
Philadelphia	95	BS2	79910	I-95: Margaret-Kennedy	+C	IMAN	NHPP	39,611,354				39,611,354																				01/14/2017 E
Philadelphia	95	BS2	79910	I-95: Margaret-Kennedy	+C	IMAN							NHPP	39,611,354				39,611,354														01/14/2017 E
Philadelphia	95	GR4	79827	I-95S: Columbia-Ann St N	+C	IMAN	NHPP	45,000,000				45,000,000																				10/26/2017 E
Philadelphia	95	GR4	79827	I-95S: Columbia-Ann St N	+C	IMAN							NHPP	45,000,000				45,000,000														10/26/2017 E
Philadelphia	95	GR4	79827	I-95S: Columbia-Ann St N	+C	IMAN													NHPP	45,000,000				45,000,000								10/26/2017 E
Philadelphia	95	GR4	79827	I-95S: Columbia-Ann St N	+C	IMAN																			NHPP	45,000,000				45,000,000	10/26/2017 E	
Philadelphia	95	GR5	79828	I-95: Race - Shackamaxon	+C	IMAN													NHPP	10,410,267				10,410,267								03/02/2017 E
Philadelphia	95	GR5	79828	I-95: Race - Shackamaxon	+C	IMAN																			NHPP	48,000,000				48,000,000	03/02/2017 E	
Philadelphia	95	GR5	79828	I-95: Race - Shackamaxon	U	IMAN	NHPP	5,216,734	581	579,637		5,796,371																				
Philadelphia	95	GR5	79828	I-95: Race - Shackamaxon	U	IMAN							NHPP	5,216,733	581	579,637		5,796,370														
Philadelphia	8017	BR2	79904	I-95:O/H Brs, Rmps, Adams	+C	IMAN	NHPP	10,000,000				10,000,000																				01/04/2018 E
Philadelphia	8017	BR2	79904	I-95:O/H Brs, Rmps, Adams	+C	IMAN							NHPP	40,000,000				40,000,000														01/04/2018 E
Philadelphia	8017	BR2	79904	I-95:O/H Brs, Rmps, Adams	+C	IMAN													NHPP	40,000,000				40,000,000								01/04/2018 E
Philadelphia	8017	BR2	79904	I-95:O/H Brs, Rmps, Adams	+C	IMAN																			NHPP	40,000,000				40,000,000	01/04/2018 E	
Totals for: Philadelphia								99,828,088		26,360,892		126,188,980		150,835,607		36,247,026		187,082,633		143,380,528		10,000,000		153,380,528		175,000,000		10,000,000		185,000,000	651,652,141	
Overall Totals:								99,828,088		26,360,892		126,188,980		150,835,607		52,864,976		203,700,583		143,380,528		10,000,000		153,380,528		175,000,000		10,000,000		185,000,000	668,270,091	

							FFY 2015 Costs						FFY 2016 Costs						FFY 2017 Costs						FFY 2018 Costs							
County	S.R.	Sec.	Project	Project Title	Ph	Area	Fed.	Federal	St.	State	Local	Total	Fed.	Federal	St.	State	Local	Total	Fed.	Federal	St.	State	Local	Total	Fed.	Federal	St.	State	Local	Total	^Milestones	
Montgomery	76	0	91571	I76 o/ Mill Cr & Mill Rd	P	IMAN			185	566,500		566,500																				
Montgomery	76	0	91571	I76 o/ Mill Cr & Mill Rd	F	IMAN															185	1,021,700		1,021,700								
Montgomery	76	0	91571	I76 o/ Mill Cr & Mill Rd	U	IMAN															185	109,272		109,272								
Montgomery	76	0	91571	I76 o/ Mill Cr & Mill Rd	R	IMAN															185	109,272		109,272								
Montgomery	76	RFR	90099	I-76 o/ Righters Ferry Rd	P	IMAN			185	463,500		463,500																				
Montgomery	76	RFR	90099	I-76 o/ Righters Ferry Rd	F	IMAN															185	835,937		835,937								
Montgomery	76	RFR	90099	I-76 o/ Righters Ferry Rd	U	IMAN															185	109,272		109,272								
Montgomery	76	RFR	90099	I-76 o/ Righters Ferry Rd	R	IMAN															185	109,272		109,272								
Montgomery	76	WAV	90100	I-76 o/ Waverly Road	P	IMAN			185	360,500		360,500																				
Montgomery	76	WAV	90100	I-76 o/ Waverly Road	F	IMAN															185	650,172		650,172								
Montgomery	76	WAV	90100	I-76 o/ Waverly Road	U	IMAN															185	109,272		109,272								
Montgomery	76	WAV	90100	I-76 o/ Waverly Road	R	IMAN															185	109,272		109,272								
Totals for: Montgomery										1,390,500		1,390,500											3,163,441		3,163,441						4,553,941	
Philadelphia			102305	I-95 Corridor ITS/ATMS	+C	IMAN							NHPP	6,365,400				6,365,400													12/17/2015 E	
Philadelphia			102309	I-95 Corridor Drainage	C	IMAN															581	5,463,636		5,463,636							06/23/2016 E	
Philadelphia	76	PC2	102389	I-76/I-76Ramp Resurfacng	C	IMAN			s581	750,000		750,000																			08/28/2014 E	
Philadelphia	95	AFC	47813	I-95: Ann St -Wheatsheaf	P	IMAN																					581	3,500,000		3,500,000		
Philadelphia	95	BR0	79903	I-95: Betsy Ross Brg Rmps	+C	IMAN	sNHPP	50,000,000				50,000,000																			10/30/2014 E	
Philadelphia	95	BR0	79903	I-95: Betsy Ross Brg Rmps	+C	IMAN							sNHP	50,000,000				50,000,000													10/30/2014 E	
Philadelphia	95	BR0	79903	I-95: Betsy Ross Brg Rmps	+C	IMAN													sNHP	30,000,000				30,000,000							10/30/2014 E	
Philadelphia	95	BR0	79903	I-95: Betsy Ross Brg Rmps	+C	IMAN																			sNHP	30,000,000				30,000,000	10/30/2014 E	
Philadelphia	95	BRI	47812	I-95: BetsyRoss Design	F	IMAN	NHPP	2,400,000	581	600,000		3,000,000																				
Philadelphia	95	BRI	47812	I-95: BetsyRoss Design	F	IMAN							NHPP	3,200,000	581	800,000		4,000,000														
Philadelphia	95	BRI	47812	I-95: BetsyRoss Design	U	IMAN							NHPP	5,760,000	581*	1,440,000		7,200,000														
Philadelphia	95	BRI	47812	I-95: BetsyRoss Design	R	IMAN	NHPP	5,635,323	581	626,147		6,261,470																				
Philadelphia	95	BS1	79908	I-95: Kennedy-Levick	+C	IMAN							NHPP	29,351,567				29,351,567													01/08/2016 E	
Philadelphia	95	BS1	79908	I-95: Kennedy-Levick	+C	IMAN													NHPP	29,351,567				29,351,567							01/08/2016 E	
Philadelphia	95	BS1	79908	I-95: Kennedy-Levick	+C	IMAN																			NHPP	29,351,566				29,351,566	01/08/2016 E	
Philadelphia	95	BS2	79910	I-95: Margaret-Kennedy	+C	IMAN													NHPP	39,611,354				39,611,354							01/14/2017 E	
Philadelphia	95	BS2	79910	I-95: Margaret-Kennedy	+C	IMAN																			NHPP	39,611,354				39,611,354	01/14/2017 E	
Philadelphia	95	BSR	47811	I-95: Bridge St Design	F	IMAN							NHPP	7,830,000	581*	870,000		8,700,000														
Philadelphia	95	BSR	47811	I-95: Bridge St Design	F	IMAN													NHPP	5,400,000	581	600,000		6,000,000								
Philadelphia	95	BSR	47811	I-95: Bridge St Design	U	IMAN							NHPP	4,726,946	581	525,217		5,252,163														
Philadelphia	95	BSR	47811	I-95: Bridge St Design	U	IMAN													NHPP	4,726,946	581	525,216		5,252,162								
Philadelphia	95	BSR	47811	I-95: Bridge St Design	U	IMAN																			NHPP	4,726,946	581	525,216		5,252,162		
Philadelphia	95	BSR	47811	I-95: Bridge St Design	R	IMAN	NHPP	4,514,786	581	501,644		5,016,430																				
Philadelphia	95	BSR	47811	I-95: Bridge St Design	R	IMAN							NHPP	4,514,786	581	501,643		5,016,429														
Philadelphia	95	CMP	f98207	I-95 Congestion Managemnt	P	PRA	NHPP	18,300,000				18,300,000																				
Philadelphia	95	CMP	f98207	I-95 Congestion Managemnt	P	PRA							NHPP	5,100,000				5,100,000														
Philadelphia	95	CP2	79685	Cttmn-Prnc Main Ln Rmp(C)	C	IMAN							NHPP	6,300,000	581	700,000		7,000,000													05/17/2012 A	
Philadelphia	95	CP2	79685	Cttmn-Prnc Main Ln Rmp(C)	C	IMAN													NHPP	6,300,000	581	700,000		7,000,000							05/17/2012 A	
Philadelphia	95	CPR	47394	I-95: Levick St - Bleigh	U	IMAN	NHPP	3,600,000	581	400,000		4,000,000																				
Philadelphia	95	GR2	83640	I-95 Shackama-Columbia(C)	C	IMAN	NHPP	4,500,000	185	250,000		4,750,000																			08/09/2012 A	

							FFY 2015 Costs						FFY 2016 Costs						FFY 2017 Costs						FFY 2018 Costs						
County	S.R.	Sec.	Project	Project Title	Ph	Area	Fed.	Federal	St.	State	Local	Total	Fed.	Federal	St.	State	Local	Total	Fed.	Federal	St.	State	Local	Total	Fed.	Federal	St.	State	Local	Total	^Milestones
Philadelphia	95	GR2	83640	I-95 Shackama-Columbia(C)	C	IMAN			581	250,000		250,000																			08/09/2012 A
Philadelphia	95	GR3	79826	I-95N:Columbia-AnnSt N(C)	C	IMAN	NHPP*	55,000,000				55,000,000																			10/31/2013 A
Philadelphia	95	GR3	79826	I-95N:Columbia-AnnSt N(C)	C	IMAN							NHPP*	40,000,000				40,000,000													10/31/2013 A
Philadelphia	95	GR3	79826	I-95N:Columbia-AnnSt N(C)	C	IMAN													NHPP*	30,000,000				30,000,000							10/31/2013 A
Philadelphia	95	GR3	79826	I-95N:Columbia-AnnSt N(C)	C	IMAN																			NHPP*	22,129,629				22,129,629	10/31/2013 A
Philadelphia	95	GR4	79827	I-95S: Columbia-Ann St N	U	IMAN							NHPP	4,296,645	581	477,405		4,774,050													
Philadelphia	95	GR4	79827	I-95S: Columbia-Ann St N	U	IMAN													NHPP	4,296,645	581	477,405		4,774,050							
Philadelphia	95	GR4	79827	I-95S: Columbia-Ann St N	+C	IMAN																			NHPP	10,000,000				10,000,000	10/26/2017 E
Philadelphia	95	GR5	79828	I-95: Race - Shackamaxon	R	IMAN							NHPP	14,322,150	581	1,591,350		15,913,500													
Philadelphia	95	GR5	79828	I-95: Race - Shackamaxon	R	IMAN													NHPP	14,322,150	581	1,591,350		15,913,500							
Philadelphia	95	VAG	86046	Girard Point Br Paint(C)	+C	IMAN	NHPP	4,500,000				4,500,000																			07/23/2009 A
Totals for: Philadelphia								148,450,109		3,377,791		151,827,900		181,767,494		6,905,615		188,673,109		164,008,662		9,357,607		173,366,269		135,819,495		4,025,216		139,844,711	653,711,989
Overall Totals:								148,450,109		4,768,291		153,218,400		181,767,494		6,905,615		188,673,109		164,008,662		12,521,048		176,529,710		135,819,495		4,025,216		139,844,711	658,265,930

APPENDIX B. COST ESTIMATE REVIEW REPORT, JULY 2014

Cost Estimate Review FHWA Closing Presentation July 2014



U.S. Department of Transportation
Federal Highway Administration



pennsylvania
DEPARTMENT OF TRANSPORTATION

Cost Estimate Review Objective

Conduct an unbiased risk-based review to verify the accuracy and reasonableness of the current total cost estimate and project schedule to complete the

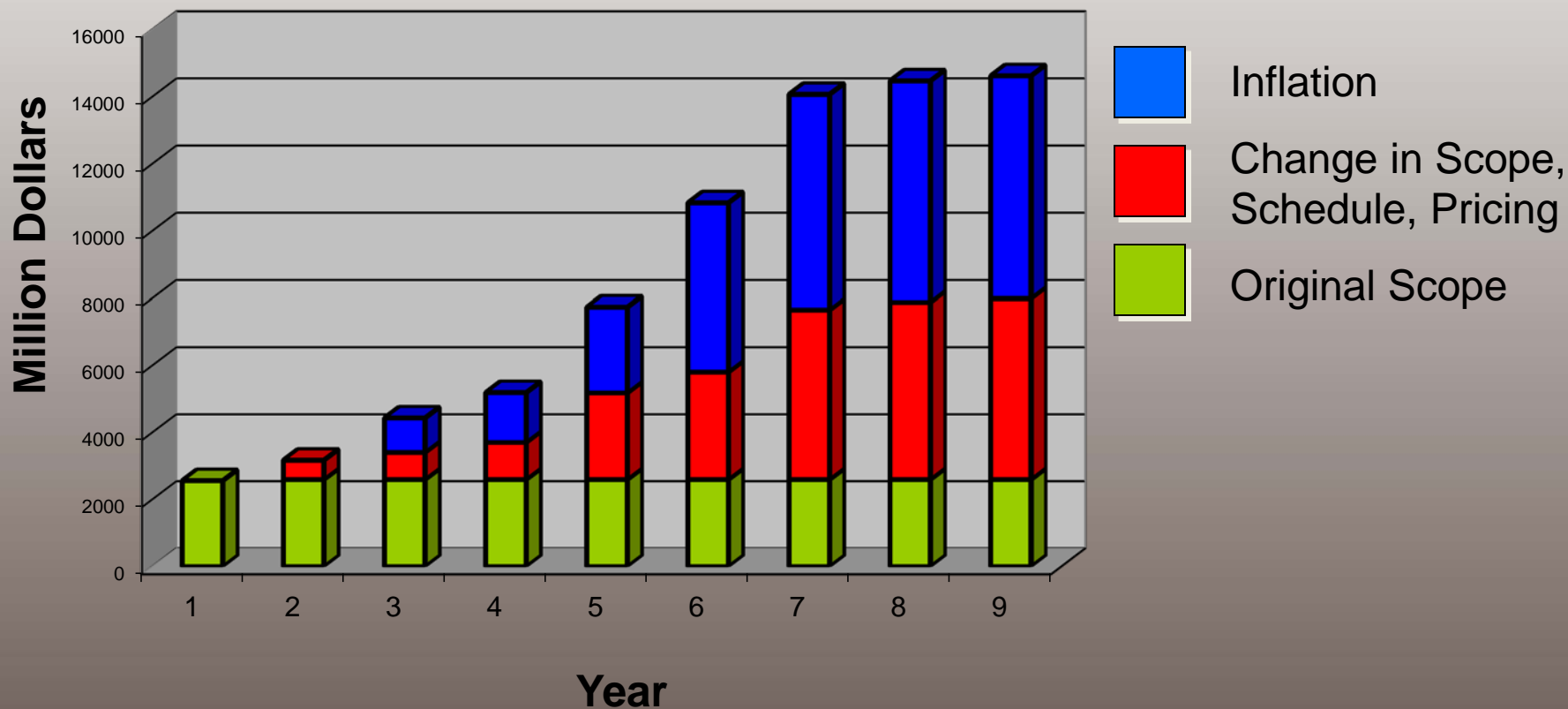
- **I-95 Betsy Ross
Interchange & Bridge
Street Ramps Project**

and to develop a probability range for the cost estimate that represents the project's current stage of design.



Evolution of Cost for Example Major Project

Cost Estimate



Policy Directives

- First enacted by TEA-21
- Title 23 U.S.C §106(h)(3)(B)

...based on reasonable assumptions, as determined by the Secretary, of future increases in the cost to complete the project...”

- Secretary = FHWA
- Reasonable assumptions = Risk based probabilistic approach



CERs & Financial Plans

- Consider all costs – Engineering, Construction, ROW, Utilities...
 - *In Year of Expenditure (YOE) Dollars inflated to the mid-point of construction*
- Required at the following thresholds:
 - **\$500 Million or higher**
Major Project – Requires concurrence from FHWA HQ
 - **\$100 Million to \$500 Million**
Required, however review is at FHWA Division's discretion



CERs & MAP-21

■ Phasing Plans

- Is funding available to construct the entire project as defined in the NEPA document?
- MAP-21 allows project sponsors to show full funding in the financial plan for portions of the project that can be opened to public and effectively operate without having full funding for the entire project, i.e. fundable incremental improvements
- CERs should evaluate the cost estimate and schedule for each phase to be identified in the financial plan



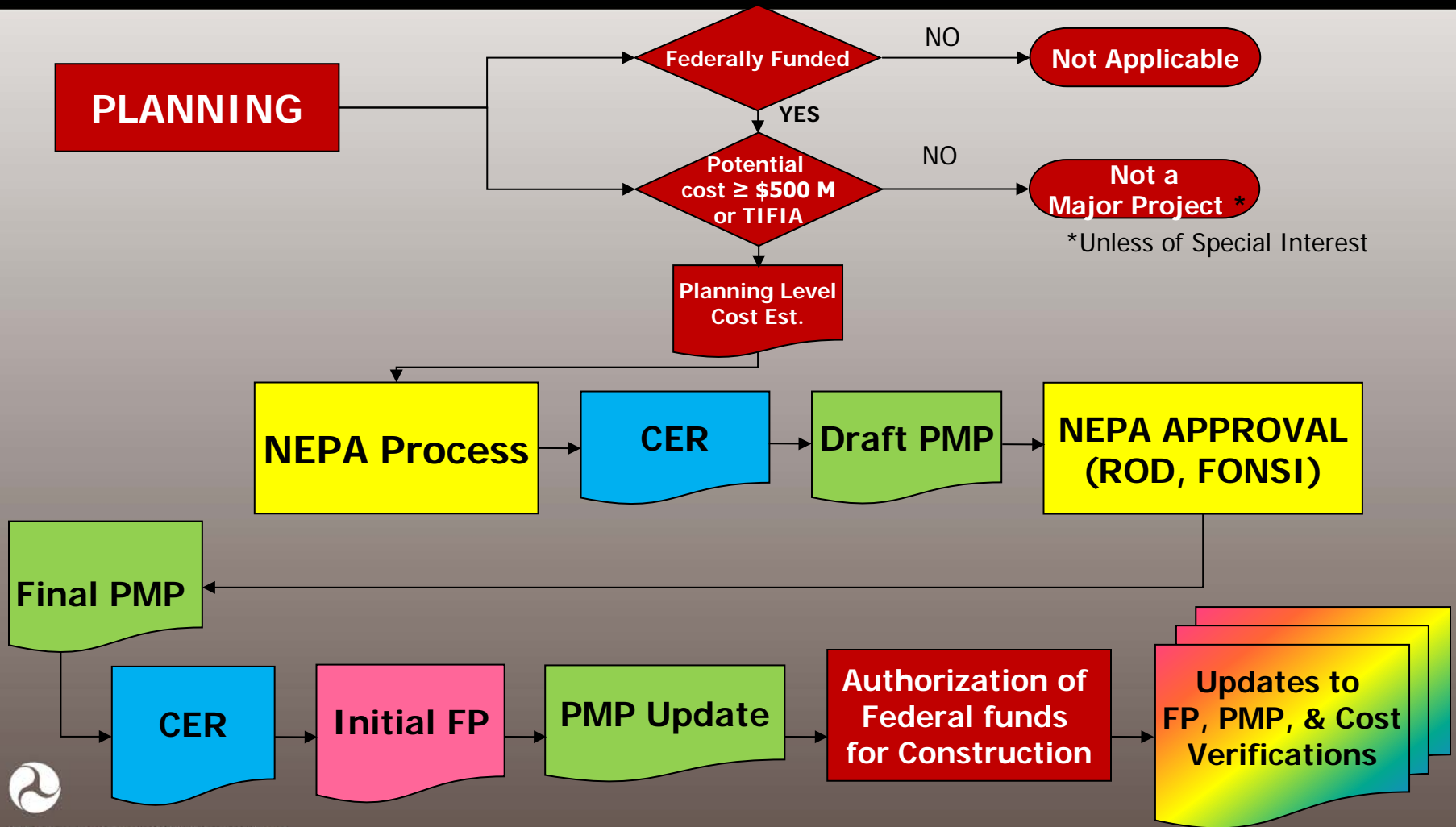
CERs & MAP-21 (cont.)

P3 Assessment

- All financial plans must assess the appropriateness of a P3 to deliver the project
- All CERs should include discussions as to whether:
 1. P3 or traditional procurement could more effectively leverage the revenue stream
 2. Current state-level legislative authority for P3s
- For projects being procured as P3s, CERs must include an analysis of the allocation of risks with respect to delivering the project through a P3
- For projects with phasing plans, an assessment must be included for each funded phase



Basic Major Project Process



FHWA Major Project Resources

FHWA Innovative Program Delivery Office

Website:

http://www.fhwa.dot.gov/ipd/project_delivery/index.htm

- *FHWA MAP-21 Interim Guidance*, September 2012
- *FHWA Final Major Project Guidance*, January 2007
- *Major Project Program Cost Estimating Guidance*, January 2007
- *New Financial Plan Guidance*, (Published in the Federal Register for public comment)
- *Project Management Plan Guidance*, January 2009
- Active Major Project Monthly Status (FOIS Output)



Review Participants

- FHWA
 - Division Office – PA
 - CER Cadre Team- FHWA HQ , DC Division
- PennDOT
- Consultants



Documentation Provided

- Project Cost Estimate
- Project Schedule
- Updated Risk Register



Basis of Review

- Review based on estimates provided by the Team in advance with revisions made during the review
- Review to determine the reasonableness of assumptions used in the estimate
- Not an independent FHWA estimate
 - Did not verify quantities and unit prices
 - Goal is to verify accuracy and reasonableness of estimate

Risk-based Probabilistic Approach



Review Methodology

Verify

- Major cost elements
- Allowances/contingencies
- Adjust estimate as necessary

Model

- Base variability
- Market conditions and inflation
- Risk events (cost, schedule, probability, impact, relationships)
- Monte Carlo simulation

Communicate

- Closeout Presentation
- Final report
- Issuance of NEPA Decision Document
- Approval of finance plan



Review Baseline

Total Cost (2014): \$1167 million
Total Cost (YOE): \$1365.5 million*

Project Completion Date: October 2025

*Assumes Inflation Rate 3%



CER Analysis

I-95 BRI-BSR Estimate (2014 dollars) **\$1167 M**

Prior Costs (included in Estimate) **\$49.1 M**

Subtotal **\$1167 million**

Contingencies **(\$175.5 million)**

Base Cost for Risk Analysis **\$991.5 million**



Review Observations

- Current estimate utilized FHWA template.
- Useful information provided by subject matter experts
- Mitigated some of the risks identified during the 2011 CER.
- Well developed level of design for Project BR0. (Final Design)
- Remaining Segments at 30% level of design.
- Knowledgeable in FHWA CER process.

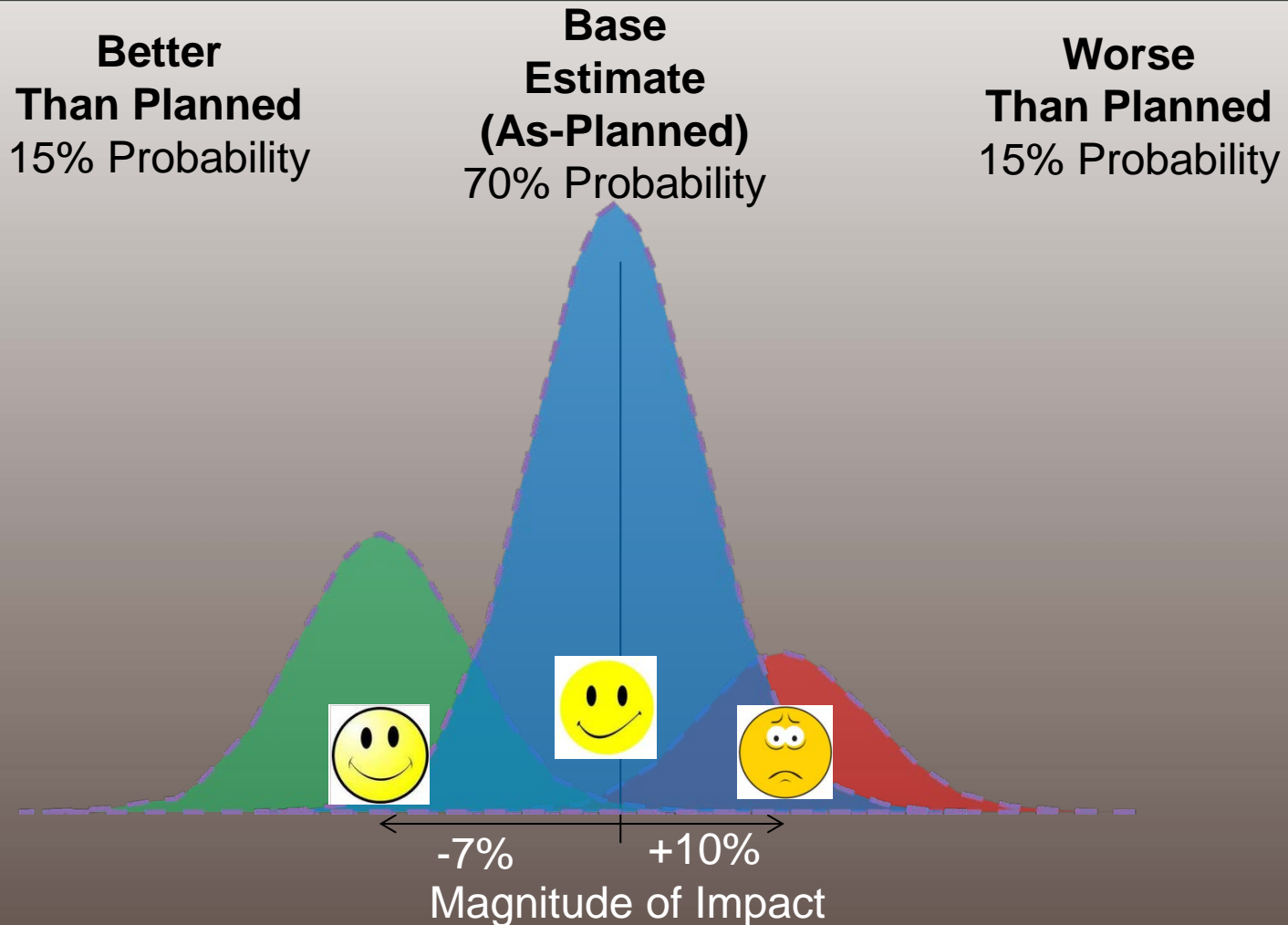


Base Variability Example

- Construction BRI
 - Modeled at +/- 5%
 - Basis
 - Current design level all segments approx. 30%.
 - Inherent variability between estimators.



Market Conditions for BRI Construction



Inflation

- Model assumes 3.0%.
- Basis
 - Inflation rates provided by PennDOT Central Office.



Example Risk Analysis

Additional Traffic Control – Threat

Examples: Additional traffic control cost for coordination between I-95 projects above the typical 3.5%.

- Probability of Occurrence – 75%
- Cost Risk Impact
 - Minimum: \$5 million
 - Most Likely: \$10 million
 - Maximum: \$20 million



Example Risk Analysis (cont.)

Probability of Occurrence

75%

Cost Risk Impact

Triangular Distribution

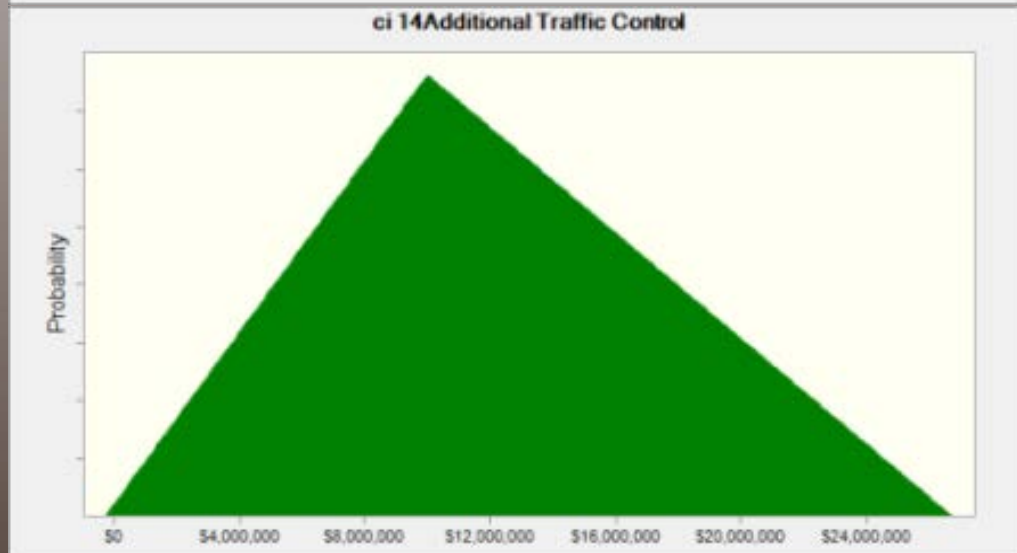
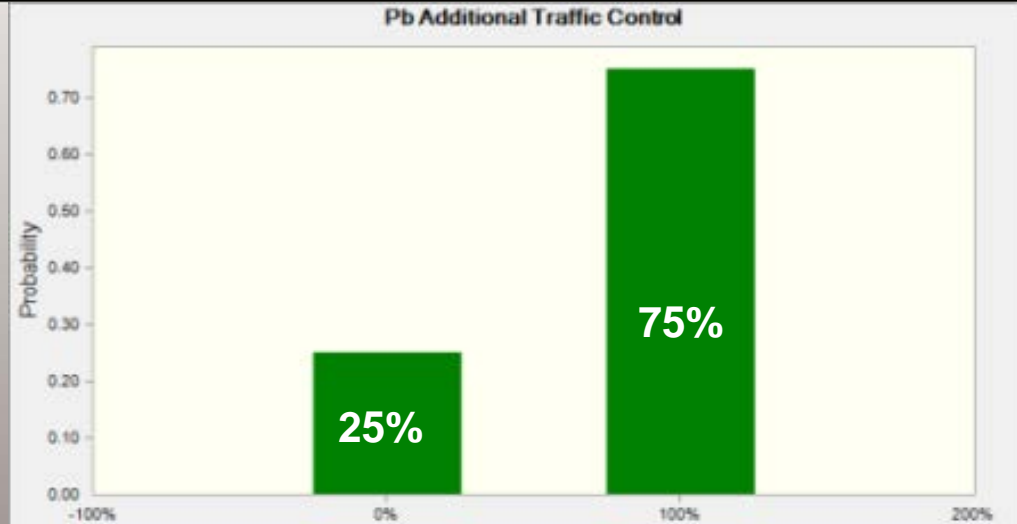
Most Likely : \$10 M

Minimum (10%): \$ 5 M

Maximum (90%): \$20 M



U.S. Department of Transportation
Federal Highway Administration



Cost Risks

Threats

- Structures
 - Probability of Occurrence – 50%
 - Most Likely – \$36.0 million
- Hazardous Waste Removal
 - Probability of Occurrence – 100%
 - Most Likely – \$40.0 million
- Differing Site Conditions
 - Probability of Occurrence – 100%
 - Most Likely – \$49.5 million



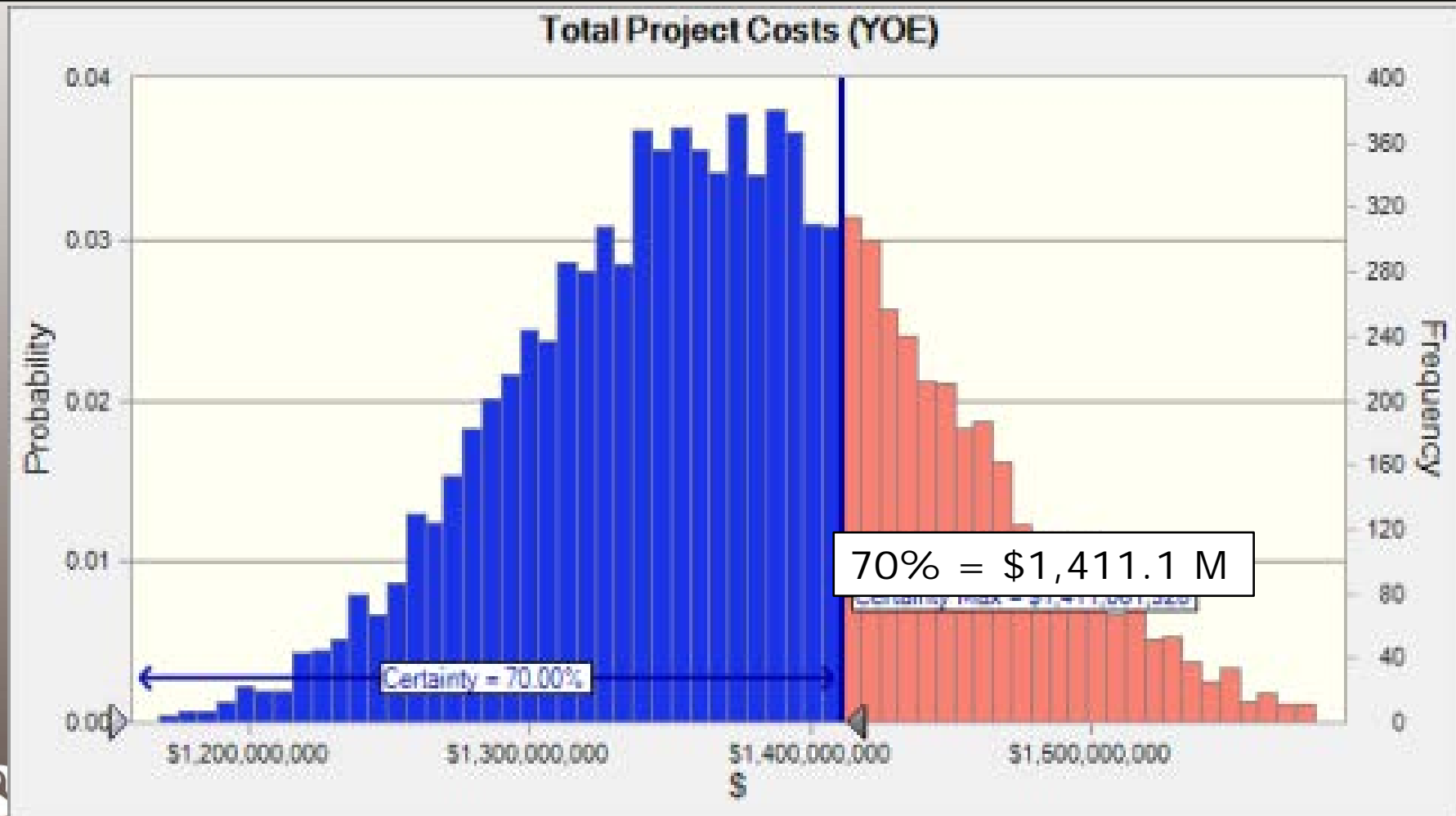
Schedule Risk

Threats

- Differing Site conditions
 - Probability of Occurrence – 50%
 - Most Likely – 6 months
- Permits/PUC/Utilities/ROW
 - Probability of Occurrence – 60%
 - Most Likely – 6 months



Total Project Cost (YOE dollars)

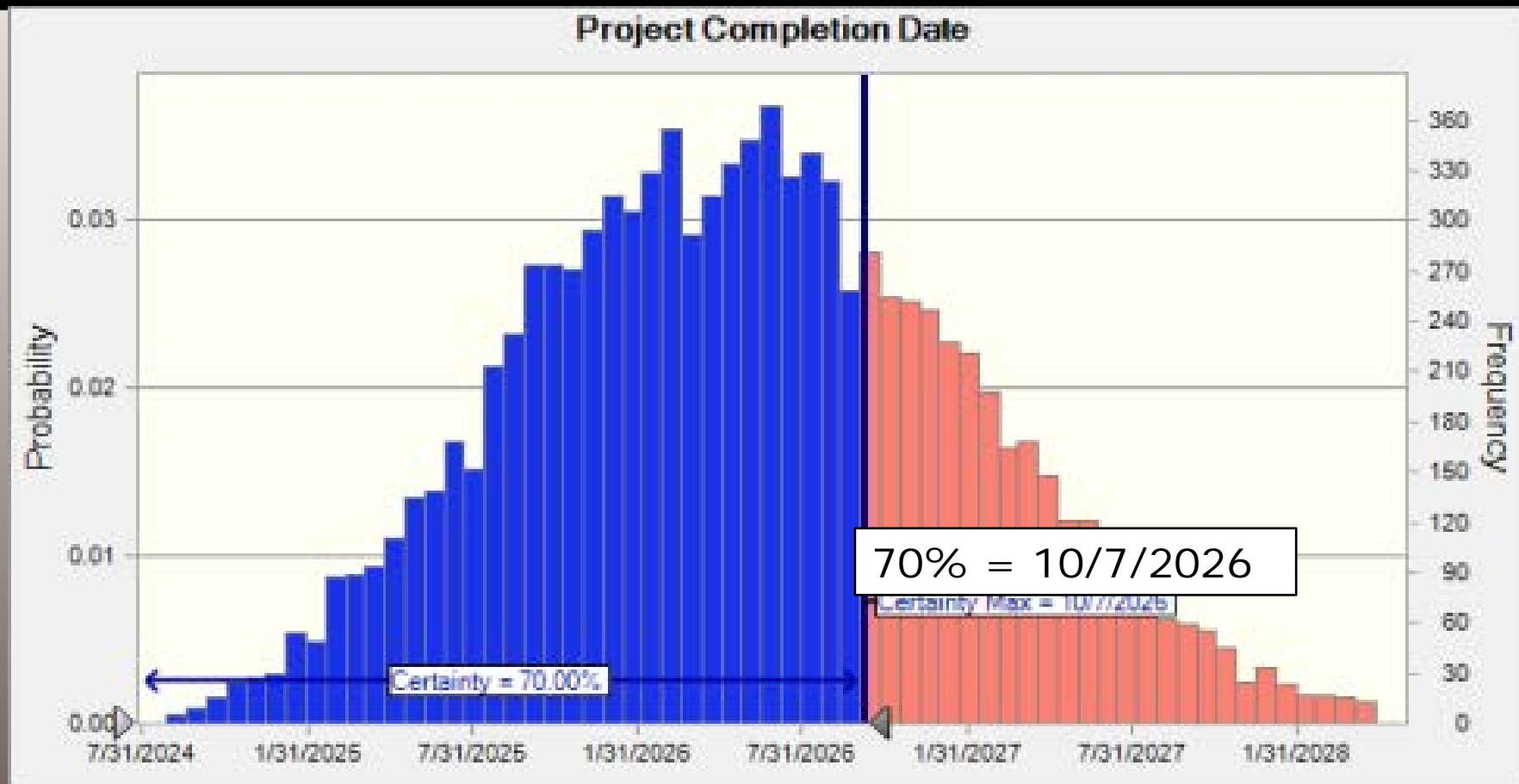


Total Project Cost (YOE) Percentile Ranking

Percentile	Forecast values
0%	\$1,128,335,441
10%	\$1,280,363,296
20%	\$1,310,550,055
30%	\$1,334,054,134
40%	\$1,353,017,131
50%	\$1,371,927,185
60%	\$1,390,497,443
70%	\$1,411,061,928
80%	\$1,434,953,437
90%	\$1,469,093,040
100%	\$1,645,842,500



Project Completion Date



*Submitted PennDOT Completion Date: October 2025



Price of Delay

Years of Delay	YOE 2014 Start	Delay YOE	Price of Delay	% Increase
1	\$1411.1	\$1432.2	\$21.1	1.5%

* Inflation is calculated to the midpoint of construction.



Recommendations

- Develop and update the risk management plan as needed.
 - Mitigation Strategies (avoid, minimize, and reassign)
 - Ensure that the project management plan addresses risk response strategies for risks identified
- Evaluate project to ensure that coordination between contracts is adequately addressed



CER Next Steps

- FHWA will prepare a final report documenting review findings.
 - Draft report for review within 30 days
 - Draft report will be e-mailed to Division Office
 - Division Office will review the draft and forward it to the Project Team
 - Final report issued within 30 days after receipt of comments
 - Final report forwarded to the Division Office for distribution to the Project Team
- FHWA uses the results as the official cost estimate for the project (NEPA, IFP, reporting)
- Estimate review is a snapshot of the current estimate



Questions?



APPENDIX C. FALL 2013 PENNDOT ESTIMATES

Project Cost Estimate by Cost Element (2013 dollars, in millions)

Cost Element	Cost by Segment						Total Project Cost
	BR0	BR2	BR3	BS1	BS2	BS3	
Design	\$13.2	19.4	14.2	13.3	21.6	5.8	87.5
ROW	13.1	10.0	5.0	3.0	10.0	7.0	48.1
Construction	155.6	260.0	330.0	83.0	145.0	28.0	1,001.6
Utilities	10.0	4.0	1.0	4.7	5.4	4.7	29.8
Risks and Opportunities	-	-		-	-	-	-
Total =	\$191.9	\$293.4	\$350.2	\$104.0	\$182.0	\$45.5	\$1,167.0

PENNSYLVANIA DEPARTMENT OF TRANSPORTATION
SR 0095, SECTION BRI
CITY OF PHILADELPHIA, PHILADELPHIA COUNTY
2013 TIP UPDATE - PRELIMINARY CONSTRUCTION COST ESTIMATE
STV INCORPORATED
July 31, 2013

PROJECT DESCRIPTIONS:

- BR0:** Project includes the required ramp construction to complete and/or improve the interchange connections from the local street system (Aramingo Ave) to I-95 and the Betsy Ross Bridge. This involves building the following ramp structures: Ramps C, D, EE, F, I (new), I (widened), and JJ. The associated approaches to these structures will be fully reconstructed, with exception of approaches of D, F, and JJ west of Aramingo Avenue. Temporary connections will be constructed to the existing ramp system. In addition, major utility relocations including the PWD culvert, PECO, and PGW are required. The PWD Culvert relocation is required in advance of the mainline construction and construction of the new ramps within this construction package. The PECO and PGW relocations are associated with the Thompson Street Bridge Removal. This contract also includes approach pavements (Ramp EE and Ramp F) supported by column supported embankment and compensating fill. A new traffic signal will be constructed at Richmond Street and the Betsy Ross Bridge westbound off ramp intersection and a traffic signal upgrade will be constructed at Richmond Street and Lefevre Street intersection.
- BR2:** Project includes the construction of the replacement, removal and rehabilitation of the Conrail bridges over I-95, Thompson Street, and Ramps A&C, as well as associated track, signal and communication work required. In addition to the work associated with the conrail bridges, this contract includes the replacements of both Ramp A and Ramp B structures including approach roadway work. Additional highway work includes the reconstruction of Aramingo Avenue from the Conrail Bridge south of Frankford Creek to Duncan Street including the bridge replacement over Frankford Creek. Also included is the construction of the Adams Avenue and associated ramps to connect the I-95 and Betsy Ross ramps to both Aramingo and Adams Avenue. Transmission tower, signal and communication relocations are anticipated for the replacement of the Conrail Bridge over I-95. Other utility relocations including the PWD, PECO, and PGW are required within Aramingo Avenue.
- BR3:** Project includes the mainline construction (NB and SB) from Wheatsheaf Lane to SR 0095 Sta 531+00.00. This contract will remove the collector/distributor ramps which connect the local street systems to I-95 and the Betsy Ross Bridge. This includes the demolition and/or replacement of numerous structures including I-95 over Frankford Creek and construction of an I-95 Viaduct over Orthodox, Pearce and Margaret Street. As a result of the collector/distributor ramp removal, a new ramp will be constructed to connect the Betsy Ross Bridge to I-95 NB (Ramp GH). Ramp G and Ramp H structures will also be replaced. A significant portion of the mainline that currently is supported on structure will be removed and replaced with a geotechnically supported pavement using compensating fill and/or column supported embankment. This will eliminate approximately 353,000 SF of SD bridge deck. A relief Ramp YY will also be constructed from I-95 NB to the local street system (Orthodox Street). PWD facility upgrades are anticipated to carry a portion of the mainline drainage to the Frankford Creek Outfall near Bridge Street.

TIP ESTIMATE SUMMARY BASED ON 2013 CONSTRUCTION COSTS:

PROJECT SECTION	CURRENT TIP YEAR	CONSTR*	UTILITIES**	ROW (Not in Constr. Phase)	CM/CI (8%)	TOTAL	
BR0	2014	\$ 132,672,600	\$ 13,475,000	\$ -	\$ 10,614,000.00	\$ 156,761,600	say \$156 M
BR2	2018	\$ 241,272,000	\$ -	\$ -	\$ 19,302,000.00	\$ 260,574,000	say \$260 M
BR3	2020	\$ 301,693,000	\$ 5,000,000	\$ -	\$ 24,136,000.00	\$ 330,829,000	say \$330 M
TOTALS		\$ 675,637,600	\$ 18,475,000	\$ -	\$ 54,052,000	\$ 748,164,600	

* Includes a 20% Contingency.

** BR0 is in Constr. Phase (Incorporated Work)

BR2/BR3 are not in Constr. Phase (Coordinated Work by Utility)

PENNSYLVANIA DEPARTMENT OF TRANSPORTATION
SR 0095, SECTION BR0
CITY OF PHILADELPHIA, PHILADELPHIA COUNTY
2013 TIP UPDATE - PRELIMINARY CONSTRUCTION COST ESTIMATE
STV INCORPORATED
July 31, 2013

SUMMARY OF COSTS	TOTAL
ROADWAY CONSTRUCTION	
SR 95	\$ 14,068,000
STRUCTURES	
RAMP C	\$ 2,343,000
RAMP D	\$ 9,294,000
RAMP EE	\$ 8,993,000
RAMP F	\$ 652,000
RAMP I NEW	\$ 8,306,000
RAMP I WIDENING	\$ 8,355,000
RAMP JJ	\$ 15,829,000
WALL C-1	\$ 1,206,000
SIGN STRUCTURES	\$ 2,300,000
DEMOLITION OF EXISTING STRUCTURE, RAMP E	\$ 5,758,000
REMOVAL OF THOMPSON STREET BRIDGE	\$ 389,500
REMOVAL OF EXISTING SIGN STRUCTURES	\$ 250,000
STRUCTURE SUB TOTAL	\$ 63,675,500
UTILITIES	
PWD RELOCATION	\$ 9,875,000
PGW RELOCATIONS	\$ 2,400,000
PECO RELOCATIONS	\$ 1,200,000
GEOTECHNICAL	
COMPENSATING FILL AND COLUMN SUPPORTED EMBANKMENT	\$ 7,240,000
TRAFFIC CONTROL	
ENTIRE PROJECT	\$ 3,489,000
E&SPC	
ENTIRE PROJECT	\$ 3,656,000
DRAINAGE	
ENTIRE PROJECT	\$ 2,610,000

PENNSYLVANIA DEPARTMENT OF TRANSPORTATION
SR 0095, SECTION BR0
CITY OF PHILADELPHIA, PHILADELPHIA COUNTY
2013 TIP UPDATE - PRELIMINARY CONSTRUCTION COST ESTIMATE
STV INCORPORATED
July 31, 2013

SWM	
ENTIRE PROJECT	\$ 9,388,000
HIGHWAY LIGHTING	
ENTIRE PROJECT	\$ 839,000
SIGNING	
SIGN FABRS ONLY SIGN STRUCTURES LISTED UNDER STRUCTURES ABOVE	\$ 249,000
PAVEMENT MARKING	
ENTIRE PROJECT	\$ 196,000
TRAFFIC SIGNALS	
ENTIRE PROJECT	\$ 150,000
ITS	
ENTIRE PROJECT	\$ 5,000,000
TOTAL (NOT INCLUDING UTILITIES)	\$ 110,560,500
CONTINGENCY = 20%	\$ 22,112,100
TOTAL WITH CONTINGENCY	\$ 146,147,600

NOTES:

1. UNIT COSTS ARE BASED ON PENNDOT ECMS ITEM PRICE HISTORY OR PREVIOUS SIMILAR CONTRACTS.
2. ASSUME ALL EXCAVATION FROM ARAMINGO AVENUE AND NORTH WILL BE DISPOSED OFF-SITE AT A PROPERLY CERTIFIED AND APPROVED LOCATION.
3. ASSUMES BORROW MATERIAL WILL BE READILY ACCESSIBLE FROM NEARBY LOCATION
4. NO COSTS INCLUDED FOR RIGHT OF WAY ACQUISITION

SR 95, SECTION BR0 - STV					
ITEM NO.		QUANTITY	UNIT PRICE	DESCRIPTION OF ITEM	TOTALS
0201 0001 LS		1	\$160,000.00	CLEARING AND GRUBBING	\$ 160,000.00
0203 0001 CY		166,871	\$75.00	CLASS 1 EXCAVATION	\$ 12,515,325.00
0204 0001 CY			\$25.00	CLASS 2 EXCAVATION	
0204 0150 CY		6,264	\$80.00	CLASS 4 EXCAVATION	\$ 501,120.00
0205 0100 CY		30,975	\$21.00	FOREIGN BORROW EXCAVATION	\$ 650,475.00
9205 0201 CY		26,213	\$72.00	ELASTIZELL CLASS II	\$ 1,887,336.00
9205 0202 CY		4,016	\$74.00	ELASTIZELL CLASS IV	\$ 297,184.00
0205 0200 CY		2,000	\$38.00	SELECTED BORROW EXCAVATION	\$ 76,000.00
0212 0006 LF		100	\$5.00	GEOTEXTILE, CLASS 3, TYPE B	\$ 500.00
0212 0015 SY		700	\$4.50	GEOTEXTILE, CLASS 4, TYPE B	\$ 3,150.00
0350 0106 SY		17,299	\$8.50	SUBBASE 6" DEPTH (NO. 2A)	\$ 147,041.50
0360 0001 SY		17,185	\$14.00	ASPHALT TREATED PERMEABLE BASE COURSE, 4" DEPTH	\$ 240,590.00
0501 0036 SY		11,676	\$75.00	PLAIN CEMENT CONCRETE PAVEMENT, 12" DEPTH	\$ 875,700.00
0503 0001 SY		14,348	\$1.75	PROTECTIVE COATING FOR CEMENT CONCRETE PAVEMENTS AND SHOULDERS	\$ 25,109.00
0504 0001 LF		130	\$245.00	PAVEMENT RELIEF JOINT	\$ 31,850.00
0601 5430 CY		6,581	\$300.00	CLASS A CEMENT CONCRETE FOR MISCELLANEOUS DRAINAGE	\$ 1,974,300.00
0601 7005 LF		906	\$55.00	12" REINFORCED CONCRETE PIPE, TYPE A, 30' - 1.5' FILL	\$ 49,830.00
0601 7014 LF		6,399	\$65.75	18" REINFORCED CONCRETE PIPE, TYPE A, 15' - 2' FILL, 100 YEAR DESIGN LIFE	\$ 420,734.25
		943	\$55.25	21" REINFORCED CONCRETE PIPE, TYPE A, 15' - 2' FILL, 100 YEAR DESIGN LIFE	\$ 52,100.75
0601 7028 LF		783	\$75.00	24" REINFORCED CONCRETE PIPE, TYPE A, 15' - 2' FILL, 100 YEAR DESIGN LIFE	\$ 58,725.00
		247	\$82.50	30" REINFORCED CONCRETE PIPE, TYPE A, 15' - 2' FILL, 100 YEAR DESIGN LIFE	\$ 20,377.50
		4	\$120.00	36" REINFORCED CONCRETE PIPE, TYPE A, 15' - 2' FILL, 100 YEAR DESIGN LIFE	\$ 480.00
0605 1480 EACH		5	\$5,500.00	MANHOLE	\$ 27,500.00
4605 1480 EACH		5	\$8,000.00	MANHOLE, MODIFIED	\$ 40,000.00

SR 95, SECTION BR0 - STV					
ITEM NO.		QUANTITY	UNIT PRICE	DESCRIPTION OF ITEM	TOTALS
0605 2780 SET		140	\$3,500.00	TYPE M FRAME AND GRATE	\$ 490,000.00
		23	\$2,900.00	TYPE C FRAME AND GRATE	\$ 66,700.00
0605 2850 EACH		163	\$3,500.00	STANDARD INLET BOX, HEIGHT </= 10'	\$ 570,500.00
0608 0001 LS		1	\$7,873,000.00	MOBILIZATION	\$ 7,873,000.00
0609 0002 LS		1	\$63,000.00	INSPECTOR'S FIELD OFFICE AND INSPECTION FACILITIES, TYPE A	\$ 63,000.00
		9,802	\$7.25	6" TP Pipe - assume base drain	\$ 71,064.50
0616 1202 EACH		9	\$1,400.00	CONCRETE END SECTIONS FOR 18" PIPE	\$ 12,600.00
0620 0011 EACH		11	\$1,900.00	TYPICAL AND ALTERNATE CONCRETE BRIDGE BARRIER TRANSITION WITH INLET PLACEMENT	\$ 20,900.00
0620 1075 LF		1,888	\$21.00	TYPE 2-S GUIDE RAIL	\$ 39,648.00
0620 XXXX #N/A		138	\$21.00	TYPE 2-SC GUIDE RAIL	\$ 2,887.50
0622 0001 LF		389	\$100.00	CONCRETE GLARE SCREEN	\$ 38,900.00
4623 0001 LF		866	\$150.00	CONCRETE MEDIAN BARRIER, MODIFIED	\$ 129,900.00
0623 0050 LF		822	\$65.00	SINGLE FACE CONCRETE BARRIER, 34" HEIGHT	\$ 53,430.00
0623 0050 LF		200	\$65.00	SINGLE FACE CONCRETE BARRIER, 41" HEIGHT	\$ 13,000.00
0627 0001 LF		22,000	\$22.00	TEMPORARY CONCRETE BARRIER	\$ 484,000.00
0628 0001 LF		17,000	\$5.00	RESET TEMPORARY CONCRETE BARRIER	\$ 85,000.00
0686 0010 LS		1	\$200,000.00	CONSTRUCTION SURVEYING, TYPE A	\$ 200,000.00
0689 0002 LS		1	\$3,000.00	NETWORK SCHEDULE	\$ 3,000.00
0696 0580 EACH		30	\$4,000.00	TEMPORARY IMPACT ATTENUATING DEVICE, TYPE IV, TEST LEVEL 3	\$ 120,000.00
0697 0580 EACH		20	\$900.00	RESET TEMPORARY IMPACT ATTENUATING DEVICE, TYPE IV, TEST LEVEL 3	\$ 18,000.00
0703 0020 CY		300	\$70.00	NO. 1 COARSE AGGREGATE	\$ 21,000.00
0703 0025 CY		50	\$95.00	NO. 57 COARSE AGGREGATE	\$ 4,750.00
0703 0028 CY		2,500	\$75.00	NO. 5 COARSE AGGREGATE	\$ 187,500.00
0804 0013 LB		400	\$8.30	SEEDING AND SOIL SUPPLEMENTS - FORMULA D	\$ 3,320.00
0804 0014 LB		250	\$12.00	SEEDING - FORMULA E	\$ 3,000.00
0804 0020 LB		700	\$12.00	SEEDING AND SOIL SUPPLEMENTS - FORMULA L	\$ 8,400.00
0805 0022 TON		12	\$430.00	MULCHING - STRAW	\$ 5,160.00
0805 0024 TON		3	\$1,500.00	MULCHING - WOOD FIBER	\$ 4,500.00
0806 0050 SY		50,000	\$1.60	EROSION CONTROL MAT	\$ 80,000.00
0808 7170 EACH		6,000	\$5.00	SOFT RUSH (PLUG)	\$ 30,000.00

SR 95, SECTION BR0 - STV					
ITEM NO.		QUANTITY	UNIT PRICE	DESCRIPTION OF ITEM	TOTALS
0808 7221 EACH		6,000	\$5.00	WOOLGRASS (PLUG)	\$ 30,000.00
0811 0003 LF		1,500	\$4.05	TEMPORARY PROTECTIVE FENCE	\$ 6,075.00
0845 0001 DOLLA		1	\$300,000.00	UNFORESEEN WATER POLLUTION CONTROL	\$ 300,000.00
0850 0031 CY		8,237	\$45.00	ROCK, CLASS R-3	\$ 370,665.00
0850 0032 CY		20	\$57.50	ROCK, CLASS R-4	\$ 1,150.00
0850 0034 CY		5,000	\$75.00	ROCK, CLASS R-6	\$ 375,000.00
0855 0003 EACH		15	\$1,100.00	PUMPED WATER FILTER BAG	\$ 16,500.00
0859 0020 LS		5	\$6,500.00	RISER PIPE ASSEMBLY	\$ 32,500.00
0861 0001 CY		1,000	\$23.50	CLEANING SEDIMENTATION STRUCTURES	\$ 23,500.00
0864 0001 LF		250	\$30.00	DIVERSION DITCH	\$ 7,500.00
		15,000	\$9.40	COMPOST FILTER SOCK, 24" DIAMETER	\$ 141,000.00
0875 0001 EACH		1	\$7,200.00	CONCRETE OUTLET STRUCTURE, BASIN 1	\$ 7,200.00
0875 0002 EACH		1	\$7,200.00	CONCRETE OUTLET STRUCTURE, BASIN 2	\$ 7,200.00
0875 0003 EACH		1	\$7,200.00	CONCRETE OUTLET STRUCTURE, BASIN 3	\$ 7,200.00
0875 0004 EACH		1	\$7,200.00	CONCRETE OUTLET STRUCTURE, BASIN 4	\$ 7,200.00
0875 0005 EACH		1	\$7,200.00	CONCRETE OUTLET STRUCTURE, BASIN 5	\$ 7,200.00
0875 0006 EACH		1	\$7,200.00	CONCRETE OUTLET STRUCTURE, BASIN 6	\$ 7,200.00
0875 0007 EACH		1	\$7,200.00	CONCRETE OUTLET STRUCTURE, BASIN 7	\$ 7,200.00
0875 0008 EACH		1	\$7,200.00	CONCRETE OUTLET STRUCTURE, BASIN 8	\$ 7,200.00
0875 0009 EACH		1	\$7,200.00	CONCRETE OUTLET STRUCTURE, BASIN 9	\$ 7,200.00
0875 0010 EACH		1	\$7,200.00	CONCRETE OUTLET STRUCTURE, BASIN 10	\$ 7,200.00
0875 0011 EACH		1	\$7,200.00	CONCRETE OUTLET STRUCTURE, BASIN 11	\$ 7,200.00
0901 0001 LS		1	\$1,000,000.00	MAINTENANCE AND PROTECTION OF TRAFFIC DURING CONSTRUCTION	\$ 1,000,000.00
0901 0321 LF		120,000	\$0.30	6" STANDARD PAVEMENT MARKINGS, PAINT & BEADS, YELLOW	\$ 36,000.00
0901 0334 LF		1,500	\$4.00	24" STANDARD PAVEMENT MARKINGS, PAINT & BEADS, WHITE	\$ 6,000.00
0901 0360 EACH		2,200	\$11.00	TEMPORARY NONPLOWABLE RAISED PAVEMENT MARKER, (TWO WAY Y/Y)	\$ 24,200.00
0910 0002 EACH		16	\$1,800.00	JUNCTION BOXES J.B.-2	\$ 28,800.00
0910 0006 EACH		55	\$1,000.00	JUNCTION BOXES J.B.-25	\$ 55,000.00
0910 0154 EACH		20	\$1,600.00	POLE FOUNDATION, TYPE FC	\$ 32,000.00
0910 0242 EACH		20	\$2,800.00	STEEL LIGHTING POLE WITH 6-FOOT BRACKET ARM (30-FOOT MOUNTING HEIGHT) TYPE A	\$ 56,000.00

SR 95, SECTION BR0 - STV					
ITEM NO.		QUANTITY	UNIT PRICE	DESCRIPTION OF ITEM	TOTALS
0910 0248		20	\$2,900.00	STEEL LIGHTING POLE WITH 12-FOOT BRACKET ARM (30-FOOT MOUNTING HEIGHT) TYPE A	\$ 58,000.00
EACH					
0910 0250		10	\$3,000.00	STEEL LIGHTING POLE WITH 15-FOOT BRACKET ARM (30-FOOT MOUNTING HEIGHT) TYPE A	\$ 30,000.00
EACH					
0910 0322		36	\$3,000.00	STEEL LIGHTING POLE WITH 6-FOOT BRACKET ARM (40-FOOT MOUNTING HEIGHT) TYPE A	\$ 108,000.00
EACH					
0910 0330		8	\$3,200.00	STEEL LIGHTING POLE WITH 15-FOOT BRACKET ARM (40-FOOT MOUNTING HEIGHT) TYPE A	\$ 25,600.00
EACH					
0910 0332		5	\$3,500.00	STEEL LIGHTING POLE WITH 20-FOOT BRACKET ARM (40-FOOT MOUNTING HEIGHT) TYPE A	\$ 17,500.00
EACH					
0910 0333		2	\$3,800.00	STEEL LIGHTING POLE WITH 25-FOOT BRACKET ARM (40-FOOT MOUNTING HEIGHT) TYPE A	\$ 7,600.00
EACH					
0910 2825		26	\$500.00	100-WATT HIGH PRESSURE SODIUM LUMINAIRE, ARM MOUNT	\$ 13,000.00
EACH					
0910 2826		20	\$500.00	150-WATT HIGH PRESSURE SODIUM LUMINAIRE, ARM MOUNT	\$ 10,000.00
EACH					
0910 2828		46	\$350.00	250-WATT HIGH PRESSURE SODIUM LUMINAIRE, ARM MOUNT	\$ 16,100.00
EACH					
0910 3072		21	\$950.00	100-WATT HIGH PRESSURE SODIUM LUMINAIRE, OVER-HEAD MOUNT	\$ 19,950.00
EACH					
0910 3073		5	\$950.00	150-WATT HIGH PRESSURE SODIUM LUMINAIRE, OVER-HEAD MOUNT	\$ 4,750.00
EACH					
0910 4114		62,000	\$2.25	AWG 4 UNDERGROUND CABLE, COPPER, 1 CONDUCTOR	\$ 139,500.00
LF					
0910 5055		4,200	\$3.75	2" DIRECT BURIAL CONDUIT	\$ 15,750.00
LF					
0910 5175		700	\$28.00	2" EXPOSED CONDUIT	\$ 19,600.00
LF					
0910 5255		10,000	\$10.00	2" CONDUIT IN STRUCTURE	\$ 100,000.00
LF					
0910 6000		4,700	\$11.00	TRENCH	\$ 51,700.00
LF					
0910 7020		1	\$15,000.00	COMPLETE POWER SUPPLY SYSTEM	\$ 15,000.00
EACH					
0910 7210		1	\$15,000.00	TESTING OF ENTIRE LIGHTING SYSTEM	\$ 15,000.00
LS					
0931 0001		1	\$34.00	POST MOUNTED SIGNS, TYPE B	\$ 34.00
SF					
0933 0001		746	\$80.00	POST MOUNTED SIGNS, TYPE D	\$ 59,680.00
SF					
0935 0001		67	\$20.00	POST MOUNTED SIGNS, TYPE F	\$ 1,340.00
SF					
0936 0001		3,277	\$22.00	STRUCTURE MOUNTED EXTRUDED ALUMINUM CHANNEL SIGNS	\$ 72,094.00
SF					
0970 0001		1	\$50.00	REMOVE POST MOUNTED SIGNS, TYPE A	\$ 50.00
EACH					
0971 0001		14	\$50.00	REMOVE POST MOUNTED SIGNS, TYPE B	\$ 700.00
EACH					
0975 0001		4	\$50.00	REMOVE POST MOUNTED SIGNS, TYPE F	\$ 200.00
EACH					
9948 0001		5	\$2,000.00	REMOVE STRUCTURE MOUNTED EXTRUDED ALUMINUM CHANNEL SIGNS, BETSY ROSS BRIDGE	\$ 10,000.00
EACH					
9948 0002		2	\$2,000.00	RESET STRUCTURE MOUNTED ADJUSTABLE SPEED LIMIT SIGNS, BETSY ROSS BRIDGE	\$ 4,000.00
EACH					
9948 0002		4	\$200.00	REMOVE POST MOUNTED SIGNS, TYPE D	\$ 800.00
EACH					
0920 0001		1	\$100,000.00	SIGN LIGHTING - ENTIRE PROJECT	\$ 100,000.00
LS					
0960 0005		25,347	\$3.00	6" WHITE HOT THERMOPLASTIC PAVEMENT MARKINGS	\$ 76,041.00
LF					

SR 95, SECTION BR0 - STV					
ITEM NO.		QUANTITY	UNIT PRICE	DESCRIPTION OF ITEM	TOTALS
0960 0006		18,200	\$3.00	6" YELLOW HOT THERMOPLASTIC PAVEMENT MARKINGS	\$ 54,600.00
LF					
0964 0005		8,150	\$0.75	6" WHITE EPOXY PAVEMENT MARKINGS	\$ 6,112.50
LF					
0964 0006		4,225	\$0.75	6" YELLOW EPOXY PAVEMENT MARKINGS	\$ 3,168.75
LF					
0964 0008		12,791	\$1.00	8" WHITE EPOXY PAVEMENT MARKINGS	\$ 12,791.00
LF					
0964 0021		5,294	\$4.50	24" WHITE EPOXY PAVEMENT MARKINGS	\$ 23,823.00
LF					
0964 0232		6	\$375.00	WHITE EPOXY LEGEND, "LANE REDUCTION TRANSITION ARROW - RIGHT LANE" , 18'-0" X 5'-6"	\$ 2,250.00
EACH					
0964 0233		3	\$325.00	WHITE EPOXY LEGEND, "LANE REDUCTION TRANSITION ARROW - LEFT LANE" , 18'-0" X 5'-6"	\$ 975.00
EACH					
0966 0014		20	\$25.00	SNOWPLOWABLE RAISED PAVEMENT MARKER TWO WAY HOLDER WITH REFLECTOR (Y/R)	\$ 500.00
EACH					
0966 0015		146	\$25.00	SNOWPLOWABLE RAISED PAVEMENT MARKER TWO WAY HOLDER WITH REFLECTOR (W/R)	\$ 3,650.00
EACH					
0966 0017		59	\$30.00	SNOWPLOWABLE RAISED PAVEMENT MARKER TWO WAY HOLDER WITH REFLECTOR (Y/B)	\$ 1,770.00
EACH					
0966 0018		405	\$25.00	SNOWPLOWABLE RAISED PAVEMENT MARKER TWO WAY HOLDER WITH REFLECTOR (W/B)	\$ 10,125.00
EACH					
1005 0800		55,222	\$30.00	TIMBER PILES	\$ 1,656,660.00
LF					
1005 1103		15,750	\$80.00	STEEL BEAM BEARING PILES, HP12X53	\$ 1,260,000.00
LF					
1005 1153		315	\$150.00	STEEL BEAM PILE TIP REINFORCEMENT, HP 12X53	\$ 47,250.00
EACH					
1085 0626		1,015	\$1,600.00	8' X 4' PRECAST REINFORCED CONCRETE BOX CULVERT SEGMENTS	\$ 1,624,000.00
LF					
1085 0632		300	\$1,800.00	9' X 5' PRECAST REINFORCED CONCRETE BOX CULVERT SEGMENTS	\$ 540,000.00
LF					
1085 0643		475	\$2,000.00	10' X 7' PRECAST REINFORCED CONCRETE BOX CULVERT SEGMENTS	\$ 950,000.00
LF					
		3,663	\$1,200.00	MOMENT SLAB (AT GRADE), 12" DEPTH	\$ 4,395,600.00
SY					
9605 1480		2	\$100,000.00	MANHOLE, SPECIAL, JUNCTION CHAMBER	\$ 200,000.00
EACH					
		5	\$2,200.00	FAIR CLOTH SKIMMER	\$ 11,000.00
EACH					
		5	\$7,500.00	TEMPORARY DEWATERING DEVICE	\$ 37,500.00
EACH					
		100	\$300.00	INLET PROTECTION	\$ 30,000.00
EACH					
		500	\$250.00	SANDBAG COFFERDAM	\$ 125,000.00
LF					
			\$40.00	TEMPORARY BARRIER	
LF					
		300	\$40.00	SHEET PILING	\$ 12,000.00
LF					
		500	\$75.00	TEMPORARY 48" CMP PIPE	\$ 37,500.00
LF					
		500	\$60.00	SEDIMENT BASIN BAFFLE	\$ 30,000.00
LF					
9000 0011		6,000	\$12.00	GEOGRID REINFORCEMENT	\$ 72,000.00
SY					
9000 0012		2,000	\$7.00	GEOTEXTILE BASE REINFORCEMENT	\$ 14,000.00
SY					
9000 0013		10	\$8,000.00	SETTLEMENT PLATFORM INSTALLATION AND MONITORING	\$ 80,000.00
EACH					

SR 95, SECTION BR0 - STV					
ITEM NO.		QUANTITY	UNIT PRICE	DESCRIPTION OF ITEM	TOTALS
9000 0010		315	\$300.00	PRECAST CONCRETE PILE CAP	\$ 94,500.00
EACH					
9000 0014		10,725	\$25.00	TEMPORARY SHORING - COMPENSATING FILL AND COLUMN SUPPORTED PILE AREA	\$ 268,125.00
SF					
9000 0500		111,203	\$27.00	IMPERVIOUS LINER	\$ 3,002,481.00
SF					
9001 0501		17	\$2,200.00	LOW FLOW ORIFICE TRASH RACK	\$ 37,400.00
EACH					
9002 0600		3	\$50,200.00	WATER QUALITY STRUCTURE - LARGE	\$ 150,600.00
EACH					
9003 0601		3	\$32,900.00	WATER QUALITY STRUCTURE - MEDIUM	\$ 98,700.00
EACH					
9004 0602		4	\$28,300.00	WATER QUALITY STRUCTURE - SMALL	\$ 113,200.00
EACH					
		11	\$2,600.00	TRASH RACK AND ANTI-VORTEX DEVICE ASSEMBLY	\$ 28,600.00
EACH					
		4	\$500,000.00	COFFERDAM WITH STEEL FRAME	\$ 2,000,000.00
LS					
		400	\$15.00	TURF REINFORCEMENT	\$ 6,000.00
EACH					
		20	\$1,500.00	ANTI-SEEP COLLAR	\$ 30,000.00
EACH					
		10	\$2,200.00	ROCK CONSTRUCTION ENTRANCE	\$ 22,000.00
EACH					
		11	\$150.00	SEDIMENT CLEANOUT MARKER	\$ 1,650.00
EACH					
		1	\$50,000.00	TIDE GATE	\$ 50,000.00
EACH					
		1	\$150,000.00	TRAFFIC SIGNALS	\$ 150,000.00
LS					
		1	\$90,000.00	OTHER UTILITY RELOCATION	\$ 90,000.00
LS					
		1	\$2,246,000.00	STRUCTURE, RAMP A (DECK REPLACEMENT)	\$ 2,246,000.00
LS					
		1	\$22,209,000.00	STRUCTURE, RAMP B REDECK OPTION	\$ 22,209,000.00
LS					
		1	\$2,343,000.00	STRUCTURE, RAMP C WITH OVERBUILD	\$ 2,343,000.00
LS					
		1	\$9,294,000.00	STRUCTURE, RAMP D	\$ 9,294,000.00
LS					
		1	\$13,851,000.00	STRUCTURE, RAMP EE	\$ 13,851,000.00
LS					
		1	\$652,000.00	STRUCTURE, RAMP F	\$ 652,000.00
LS					
		1	\$9,206,000.00	STRUCTURE, RAMP I, NEW	\$ 9,206,000.00
LS					
		1	\$8,355,000.00	STRUCTURE, RAMP I, WIDENING	\$ 8,355,000.00
LS					
		1	\$15,829,000.00	STRUCTURE, RAMP JJ	\$ 15,829,000.00
LS					
		1	\$1,206,000.00	STRUCTURE, WALL C (MSE)	\$ 1,206,000.00
LS					
		1	\$389,500.00	REMOVAL OF THOMPSON STREET BRIDGE	\$ 389,500.00
LS					
		1	\$2,300,000.00	SIGN STRUCTURES	\$ 2,300,000.00
LS					
		1	\$5,000,000.00	ITS	\$ 5,000,000.00
LS					

SR 95, SECTION BR0 - STV					
ITEM NO.		QUANTITY	UNIT PRICE	DESCRIPTION OF ITEM	TOTALS
Sub-Total SR 95 Roadway Construction					\$ 144,637,698.25
CONTINGENCY = 20%					\$28,927,540
Total SR 95 Roadway Construction					\$173,565,238

PENNSYLVANIA DEPARTMENT OF TRANSPORTATION
SR 0095, SECTION BR2
CITY OF PHILADELPHIA, PHILADELPHIA COUNTY
2013 TIP UPDATE - PRELIMINARY CONSTRUCTION COST ESTIMATE
STV INCORPORATED
CDM SMITH
July 31, 2013

SUMMARY OF COSTS			
	TOTAL	STV	CDM SMITH
ROADWAY CONSTRUCTION			
I-95	\$ 7,500,000	\$ 7,500,000	\$ -
SR 2009 (ARAMINGO AVE) & SR 1026 (ADAMS AVE)	\$ 29,924,000	\$ -	\$ 29,924,000
RAILROAD CONSTRUCTION			
RAILROAD ENGINEERING (CONRAIL)	\$ 1,000,000	\$ 1,000,000	\$ -
TRACKS	\$ 3,500,000	\$ 3,500,000	\$ -
SIGNALS	\$ 2,500,000	\$ 2,500,000	\$ -
COMMUNICATIONS	\$ 2,500,000	\$ 2,500,000	\$ -
STRUCTURES			
CONRAIL OVER I-95	\$ 25,000,000	\$ 25,000,000	\$ -
CONRAIL OVER RAMPS A & C	\$ 750,000	\$ 750,000	\$ -
SR 2009 OVER FRANKFORD CREEK	\$ 5,240,000	\$ -	\$ 5,240,000
RAMP A OVER FRANKFORD CREEK	\$ 2,700,000	\$ 2,700,000	\$ -
RAMP B OVER I-95	\$ 48,068,000	\$ 48,068,000	\$ -
SIGN STRUCTURES	\$ 1,750,000	\$ -	\$ 1,750,000
DEMOLITION OF EXISTING STRUCTURES, RAMP A	\$ 450,000	\$ 450,000	\$ -
DEMOLITION OF EXISTING STRUCTURES, RAMP B	\$ 8,012,000	\$ 8,012,000	\$ -
REMOVAL OF EXISTING SIGN STRUCTURES	\$ 80,000	\$ -	\$ 80,000
STRUCTURE SUB TOTAL	\$ 92,050,000	\$ 84,980,000	\$ 7,070,000
UTILITIES			
PWD RELOCATION (SR 2009)	\$ 1,200,000	\$ -	\$ 1,200,000
PGW RELOCATIONS (SR 2009)	\$ 750,000	\$ -	\$ 750,000
PECO RELOCATIONS (SR 2009)	\$ 500,000	\$ -	\$ 500,000
PECO RELOCATIONS (TRANSMISSION TOWERS)	\$ 10,000,000	\$ 10,000,000	\$ -
GEOTECHNICAL			
COMPENSATING FILL AND COLUMN SUPPORTED EMBANKMENT	\$ -	\$ -	\$ -
TRAFFIC CONTROL			
ENTIRE PROJECT (ROADWAY)	\$ 5,381,000	\$ 3,000,000	\$ 2,381,000
RAILROAD FLAGGING	\$ 2,000,000	\$ 2,000,000	\$ -
E&SPC			
ENTIRE PROJECT	\$ 7,769,000	\$ 2,000,000	\$ 5,769,000
DRAINAGE			
ENTIRE PROJECT	\$ 37,983,000	\$ 2,500,000	\$ 35,483,000
SWM			
ENTIRE PROJECT	\$ 2,500,000	\$ 2,500,000	\$ -
HIGHWAY LIGHTING			
ENTIRE PROJECT	\$ 2,245,000	\$ 500,000	\$ 1,745,000

PENNSYLVANIA DEPARTMENT OF TRANSPORTATION
SR 0095, SECTION BR2
CITY OF PHILADELPHIA, PHILADELPHIA COUNTY
2013 TIP UPDATE - PRELIMINARY CONSTRUCTION COST ESTIMATE
STV INCORPORATED
CDM SMITH
July 31, 2013

SIGNING			
SIGN FABRS ONLY	\$ 1,117,000	\$ -	\$ 1,117,000
SIGN STRUCTURES LISTED UNDER STRUCTURES ABOVE			
PAVEMENT MARKING			
ENTIRE PROJECT	\$ 91,000	\$ 20,000	\$ 71,000
TRAFFIC SIGNALS			
ENTIRE PROJECT	\$ -	\$ -	\$ -
ITS			
ENTIRE PROJECT	\$ 3,000,000	\$ -	\$ 3,000,000
TOTAL (NOT INCLUDING UTILITIES)	\$ 201,060,000	\$ 114,500,000	\$ 86,560,000
CONTINGENCY = 20%	\$ 40,212,000	\$ 22,900,000	\$ 17,312,000
TOTAL WITH CONTINGENCY	\$ 253,722,000	\$ 147,400,000	\$ 106,322,000

NOTES:

1. UNIT COSTS ARE BASED ON PENNDOT ECMS ITEM PRICE HISTORY OR PREVIOUS SIMILAR CONTRACTS.
2. ASSUME ALL EXCAVATION WILL BE DISPOSED OFF-SITE AT A PROPERLY CERTIFIED AND APPROVED LOCATION.
3. ASSUMES BORROW MATERIAL WILL BE READILY ACCESSIBLE FROM NEARBY LOCATION
4. NO COSTS INCLUDED FOR RIGHT OF WAY ACQUISITION

SR 95, SECTION BR0 - CDM SMITH

ITEM NO.		QUANTITY	UNIT PRICE	DESCRIPTION OF ITEM	TOTALS
0201 0001			\$160,000.00	CLEARING AND GRUBBING	
LS					
0203 0001		930	\$75.00	CLASS 1 EXCAVATION	\$ 69,750.00
CY					
9203 0001		216,788	\$235.00	CLASS 1 EXCAVATION, HAZARDOUS MATERIAL	\$ 50,945,180.00
CY					
9204 0001		7,089	\$235.00	CLASS 2 EXCAVATION, HAZARDOUS MATERIAL	\$ 1,665,915.00
CY					
0204 0150		145	\$80.00	CLASS 4 EXCAVATION	\$ 11,600.00
CY					
9204 0151		4,700	\$255.00	CLASS 4 EXCAVATION, HAZARDOUS MATERIAL	\$ 1,198,500.00
CY					
9204 0152		4,300	\$255.00	CLASS 4 EXCAVATION, MODIFIED, HAZARDOUS MATERIAL	\$ 1,096,500.00
CY					
0205 0100		54,915	\$21.00	FOREIGN BORROW EXCAVATION	\$ 1,153,215.00
CY					
0205 0200			\$55.00	ELASTIZELL CLASS II	
CY					
0205 0200			\$60.00	ELASTIZELL CLASS IV	
CY					
0205 0200			\$38.00	SELECTED BORROW EXCAVATION	
CY					
0212 0001		18,900	\$1.00	GEOTEXTILE, CLASS 1	\$ 18,900.00
LF					
0212 0002		665	\$1.00	GEOTEXTILE, CLASS 2, TYPE A	\$ 665.00
SY					
0212 0006			\$5.00	GEOTEXTILE, CLASS 3, TYPE B	
LF					
0212 0014		1,692	\$10.00	GEOTEXTILE, CLASS 4, TYPE A	\$ 16,920.00
SY					
0212 0015			\$4.50	GEOTEXTILE, CLASS 4, TYPE B	
SY					
0220 0020		300	\$200.00	FLOWABLE BACKFILL, TYPE C	\$ 59,922.97
CY					
0309 0320		1,220	\$25.00	SUPERPAVE ASPHALT MIXTURE DESIGN, HMA BASE COURSE, PG 64-22, < 0.3 MILLION ESALS, 25.0 MM MIX, 3" DEPTH	\$ 30,500.00
SY					
0309 0322		2,217	\$25.00	SUPERPAVE ASPHALT MIXTURE DESIGN, HMA BASE COURSE, PG 64-22, < 0.3 MILLION ESALS, 25.0 MM MIX, 4" DEPTH	\$ 55,425.00
SY					

SR 95, SECTION BR0 - CDM SMITH

ITEM NO.		QUANTITY	UNIT PRICE	DESCRIPTION OF ITEM	TOTALS
0309 0330 SY		3,903	\$80.00	SUPERPAVE ASPHALT MIXTURE DESIGN, HMA BASE COURSE, PG 64-22, < 0.3 MILLION ESALS, 25.0 MM MIX, 8" DEPTH	\$ 312,240.00
0309 0508 SY		9,503	\$80.00	SUPERPAVE ASPHALT MIXTURE DESIGN, HMA BASE COURSE, PG 64-22, 3 TO < 10 MILLION ESALS, 37.5 MM MIX, 8" DEPTH	\$ 760,240.00
0350 0103 SY		1,220	\$5.00	SUBBASE 3" DEPTH (NO. 2A)	\$ 6,100.00
0350 0106 SY		70,015	\$8.50	SUBBASE 6" DEPTH (NO. 2A)	\$ 595,127.50
0360 0001 SY		24,018	\$14.00	ASPHALT TREATED PERMEABLE BASE COURSE, 4" DEPTH	\$ 336,252.00
0409 0341 SY		2,217	\$5.00	SUPERPAVE ASPHALT MIXTURE DESIGN, HMA WEARING COURSE, PG 64-22, < 0.3 MILLION ESALS, 12.5 MM MIX, 1 1/2" DEPTH, SRL-E	\$ 11,085.00
0409 4541 SY		11,297	\$60.00	SUPERPAVE ASPHALT MIXTURE DESIGN, HMA WEARING COURSE, RPS, PG 64-22, 3 TO < 10 MILLION ESALS, 12.5 MM MIX, 1 1/2" DEPTH, SRL-E	\$ 677,820.00
0409 6550 SY		39,500	\$60.00	SUPERPAVE ASPHALT MIXTURE DESIGN, HMA BINDER COURSE, PG 64-22, 3 TO < 10 MILLION ESALS, 19.0 MM MIX, 2 1/2"	\$ 2,370,000.00
0409 6570 TON			\$333.00	SUPERPAVE ASPHALT MIXTURE DESIGN, HMA BINDER COURSE, PG 64-22, 3 TO < 10 MILLION ESALS, 19.0 MM MIX	
0460 0001 SY		1,210	\$0.40	BITUMINOUS TACK COAT	\$ 484.00
0409 0582 SY		23,770	\$8.50	SUPERPAVE ASPHALT MIXTURE DESIGN, HMA WEARING COURSE, PG 64-22, 3 TO < 10 MILLION ESALS, 9.5 MM MIX, 1 1/2" DEPTH, SRL-H	\$ 202,045.00
0501 0028 SY		23,480	\$60.00	PLAIN CEMENT CONCRETE PAVEMENT, 8" DEPTH	\$ 1,408,800.00
0501 0036 SY		22,483	\$75.00	PLAIN CEMENT CONCRETE PAVEMENT, 12" DEPTH	\$ 1,686,225.00
0503 0001 SY			\$1.75	PROTECTIVE COATING FOR CEMENT CONCRETE PAVEMENTS AND SHOULDERS	
0504 0001 LF			\$245.00	PAVEMENT RELIEF JOINT	
0601 5430 CY			\$300.00	CLASS A CEMENT CONCRETE FOR MISCELLANEOUS DRAINAGE	

SR 95, SECTION BR0 - CDM SMITH

ITEM NO.		QUANTITY	UNIT PRICE	DESCRIPTION OF ITEM	TOTALS
0601 7005 LF			\$80.00	12" REINFORCED CONCRETE PIPE, TYPE A, 30' - 1.5' FILL	
0601 7010 LF		117	\$85.00	15" REINFORCED CONCRETE PIPE, TYPE A, 30' - 1.5' FILL	\$ 9,945.00
0601 7014 LF		419	\$80.00	18" REINFORCED CONCRETE PIPE, TYPE A, 15' - 2' FILL, 100 YEAR DESIGN LIFE	\$ 33,520.00
0601 7027 LF			\$90.00	24" REINFORCED CONCRETE PIPE, TYPE A, 10' - 2' FILL, 100 YEAR DESIGN LIFE	
0601 7028 LF			\$100.00	24" REINFORCED CONCRETE PIPE, TYPE A, 15' - 2' FILL, 100 YEAR DESIGN LIFE	
0601 7058 LF			\$140.00	36" REINFORCED CONCRETE PIPE, TYPE A, 15' - 3' FILL, 100 YEAR DESIGN LIFE	
0601 7078 LF			\$350.00	54" REINFORCED CONCRETE PIPE, TYPE A, 2' - 1.5' FILL, 100 YEAR DESIGN LIFE	
0601 7507 LF		700	\$85.00	15" REINFORCED CONCRETE PIPE, TYPE A, 15' - 3' FILL, SHORE/TRENCH BOX	\$ 59,500.00
4601 7507 LF		500	\$105.00	15" REINFORCED CONCRETE PIPE, TYPE A, 15' - 3' FILL, SHORE/TRENCH BOX, MODIFIED	\$ 52,500.00
0601 7511 LF		1,800	\$90.00	18" REINFORCED CONCRETE PIPE, TYPE A, 15' - 3' FILL, SHORE/TRENCH BOX, 100 YEAR DESIGN LIFE	\$ 162,000.00
4601 7511 LF		1,200	\$110.00	18" REINFORCED CONCRETE PIPE, TYPE A, 15' - 3' FILL, SHORE/TRENCH BOX, 100 YEAR DESIGN LIFE, MODIFIED	\$ 132,000.00
0601 7519 LF		200	\$95.00	24" REINFORCED CONCRETE PIPE, TYPE A, 15' - 7' FILL, SHORE/TRENCH BOX, 100 YEAR DESIGN LIFE	\$ 19,000.00
4601 7519 LF		200	\$115.00	24" REINFORCED CONCRETE PIPE, TYPE A, 15' - 7' FILL, SHORE/TRENCH BOX, 100 YEAR DESIGN LIFE, MODIFIED	\$ 23,000.00
0601 7523 LF		100	\$100.00	27" REINFORCED CONCRETE PIPE, TYPE A, 15' - 3' FILL, SHORE/TRENCH BOX, 100 YEAR DESIGN LIFE	\$ 10,000.00
4601 7523 LF		100	\$120.00	27" REINFORCED CONCRETE PIPE, TYPE A, 15' - 3' FILL, SHORE/TRENCH BOX, 100 YEAR DESIGN LIFE, MODIFIED	\$ 12,000.00
0601 7565 LF		100	\$400.00	72" REINFORCED CONCRETE PIPE, TYPE A, 15' - 1.5' FILL, SHORE/TRENCH BOX, 100 YEAR DESIGN LIFE	\$ 40,000.00
4601 7565 LF		100	\$450.00	72" REINFORCED CONCRETE PIPE, TYPE A, 15' - 1.5' FILL, SHORE/TRENCH BOX, 100 YEAR DESIGN LIFE, MODIFIED	\$ 45,000.00
0601 7574 LF		100	\$500.00	84" REINFORCED CONCRETE PIPE, TYPE A, 15' - 1.5' FILL, SHORE/TRENCH BOX, 100 YEAR DESIGN LIFE	\$ 50,000.00

SR 95, SECTION BR0 - CDM SMITH

ITEM NO.		QUANTITY	UNIT PRICE	DESCRIPTION OF ITEM	TOTALS
4601 7574		100	\$550.00	84" REINFORCED CONCRETE PIPE, TYPE A, 15' - 1.5' FILL, SHORE/TRENCH BOX, 100 YEAR DESIGN LIFE, MODIFIED	\$ 55,000.00
LF					
0604 7014		200	\$100.00	18" REINFORCED CONCRETE PIPE, TYPE A, (OPEN JOINT), 15' - 2' FILL, 100 YEAR DESIGN LIFE	\$ 20,000.00
LF					
4604 7014		200	\$120.00	18" REINFORCED CONCRETE PIPE, TYPE A, (OPEN JOINT), 15' - 2' FILL, 100 YEAR DESIGN LIFE, MODIFIED	\$ 24,000.00
LF					
0605 1480		18	\$3,800.00	MANHOLE	\$ 68,400.00
EACH					
4605 1480			\$10,000.00	MANHOLE, MODIFIED	
EACH					
0605 2600		15	\$2,000.00	TYPE D ENDWALL	\$ 30,000.00
EACH					
0605 2620		5	\$3,500.00	TYPE D-W ENDWALL	\$ 17,500.00
EACH					
4605 2620		5	\$5,000.00	TYPE D-W ENDWALL, MODIFIED	\$ 25,000.00
EACH					
4605 2731		4	\$1,000.00	TYPE M CONCRETE TOP UNIT AND BICYCLE SAFE GRATE	\$ 4,000.00
EACH					
0605 2731		15	\$1,000.00	TYPE M CONCRETE TOP UNIT AND BICYCLE SAFE GRATE	\$ 15,000.00
SET					
0605 2741		5	\$1,000.00	TYPE S CONCRETE TOP UNIT AND BICYCLE SAFE GRATE	\$ 5,000.00
SET					
0605 2780			\$850.00	TYPE M FRAME AND GRATE	
SET					
0605 2850		25	\$1,900.00	STANDARD INLET BOX, HEIGHT <= 10'	\$ 47,500.00
EACH					
4605 2850		4	\$1,000.00	STANDARD INLET BOX	\$ 4,000.00
EACH					
0608 0001			\$4,178,000.00	MOBILIZATION	
LS					
0609 0002			\$63,000.00	INSPECTOR'S FIELD OFFICE AND INSPECTION FACILITIES, TYPE A	
LS					
0610 7002		19,750	\$13.00	6" PAVEMENT BASE DRAIN	\$ 256,750.00
LF					
0615 0022		400	\$75.00	6" SUBSURFACE DRAIN OUTLETS	\$ 30,000.00
LF					

SR 95, SECTION BR0 - CDM SMITH

ITEM NO.		QUANTITY	UNIT PRICE	DESCRIPTION OF ITEM	TOTALS
0616 1202			\$1,400.00	CONCRETE END SECTIONS FOR 18" PIPE	
EACH					
0620 0011		2	\$1,900.00	TYPICAL AND ALTERNATE CONCRETE BRIDGE BARRIER TRANSITION WITH INLET PLACEMENT	\$ 3,800.00
EACH					
0619 0470		4	\$2,300.00	PERMANENT IMPACT ATTENUATING DEVICE, TYPE II, TEST LEVEL 3 (ENERGY ABSORBING TERMINALS, TANGENT)	\$ 9,200.00
EACH					
0620 1075		4,875	\$21.00	TYPE 2-S GUIDE RAIL	\$ 102,375.00
LF					
0620 1100		25	\$2,300.00	TYPE 2-SC GUIDE RAIL	\$ 57,500.00
LF					
0622 0001		936	\$100.00	CONCRETE GLARE SCREEN	\$ 93,600.00
LF					
4623 0001		260	\$150.00	CONCRETE MEDIAN BARRIER, MODIFIED	\$ 39,000.00
LF					
0623 0050			\$65.00	SINGLE FACE CONCRETE BARRIER, 34" HEIGHT	
LF					
0623 0052		150	\$60.00	SINGLE FACE CONCRETE BARRIER	\$ 9,000.00
LF					
0627 0001		5,178	\$22.00	TEMPORARY CONCRETE BARRIER	\$ 113,916.00
LF					
0628 0001		9,317	\$5.00	RESET TEMPORARY CONCRETE BARRIER	\$ 46,585.00
LF					
0630 0001		7,049	\$25.00	PLAIN CEMENT CONCRETE CURB	\$ 176,225.00
LF					
0643 0001		400	\$100.00	TEMPORARY CONCRETE BARRIER, STRUCTURE MOUNTED	\$ 40,000.00
LF					
0644 0001		400	\$60.00	TEMPORARY CONCRETE BARRIER, STRUCTURE MOUNTED, RESET	\$ 24,000.00
LF					
0676 0001		2,720	\$60.00	CEMENT CONCRETE SIDEWALK	\$ 163,200.00
SY					
0686 0010			\$200,000.00	CONSTRUCTION SURVEYING, TYPE A	
LS					
0689 0002			\$3,000.00	NETWORK SCHEDULE	
LS					
0695 0004		340	\$40.00	DETECTABLE WARNING SURFACE, POLYMER COMPOSITE	\$ 13,600.00
SF					
0696 0580			\$4,000.00	TEMPORARY IMPACT ATTENUATING DEVICE, TYPE IV, TEST LEVEL 3	
EACH					

SR 95, SECTION BR0 - CDM SMITH

ITEM NO.		QUANTITY	UNIT PRICE	DESCRIPTION OF ITEM	TOTALS
0696 0610		15	\$4,000.00	TEMPORARY IMPACT ATTENUATING DEVICE, TYPE V (STANDARD), TEST LEVEL 3	\$ 60,000.00
EACH					
0697 0580			\$900.00	RESET TEMPORARY IMPACT ATTENUATING DEVICE, TYPE IV, TEST LEVEL 3	
EACH					
0697 0610		51	\$1,000.00	RESET TEMPORARY IMPACT ATTENUATING DEVICE, TYPE V (STANDARD), TEST LEVEL 3	\$ 51,000.00
EACH					
0703 0020		491	\$70.00	NO. 1 COARSE AGGREGATE	\$ 34,370.00
CY					
0703 0025		105	\$95.00	NO. 57 COARSE AGGREGATE	\$ 9,975.00
CY					
0703 0028			\$75.00	NO. 5 COARSE AGGREGATE	
CY					
0802 0001		7,585	\$45.00	TOPSOIL FURNISHED AND PLACED	\$ 341,325.00
CY					
0804 0011		100	\$25.00	SEEDING AND SOIL SUPPLEMENTS - FORMULA B	\$ 2,500.00
LB					
0804 0013		1,180	\$8.00	SEEDING AND SOIL SUPPLEMENTS - FORMULA D	\$ 9,440.00
LB					
4804 0013		570	\$15.00	SEEDING AND SOIL SUPPLEMENTS - FORMULA D MODIFIED	\$ 8,550.00
LB					
0804 0014			\$12.00	SEEDING - FORMULA E	
LB					
4804 0014		125	\$10.00	SEEDING - FORMULA E MODIFIED	\$ 1,250.00
LB					
0804 0020			\$12.00	SEEDING AND SOIL SUPPLEMENTS - FORMULA L	
LB					
0804 0021		40	\$25.00	SEEDING AND SOIL SUPPLEMENTS - FORMULA W	\$ 1,000.00
LB					
0805 0022		36	\$350.00	MULCHING - STRAW	\$ 12,600.00
TON					
0805 0024			\$870.00	MULCHING - WOOD FIBER	
TON					
0806 0050		14,510	\$1.00	EROSION CONTROL MAT	\$ 14,510.00
SY					
0806 0052		940	\$1.50	HIGH VELOCITY EROSION CONTROL MULCH BLANKET	\$ 1,410.00
LB					
0808 7170			\$5.00	SOFT RUSH (PLUG)	
EACH					

SR 95, SECTION BR0 - CDM SMITH

ITEM NO.		QUANTITY	UNIT PRICE	DESCRIPTION OF ITEM	TOTALS
0808 7221			\$5.00	WOOLGRASS (PLUG)	
EACH					
0811 0003		3,500	\$2.75	TEMPORARY PROTECTIVE FENCE	\$ 9,625.00
LF					
0845 0001			\$50,000.00	UNFORESEEN WATER POLLUTION CONTROL	
DOLLA					
0850 0024		555	\$100.00	ROCK, CLASS R-6	\$ 55,500.00
SY					
0850 0031		531	\$150.00	ROCK, CLASS R-3	\$ 79,650.00
CY					
0850 0032		335	\$100.00	ROCK, CLASS R-4	\$ 33,500.00
CY					
0850 0034			\$75.00	ROCK, CLASS R-6	
CY					
0855 0003		14	\$1,100.00	PUMPED WATER FILTER BAG	\$ 15,400.00
EACH					
0855 0004		16	\$500.00	REPLACEMENT PUMPED WATER FILTER BAG	\$ 8,000.00
EACH					
0859 0020			\$6,500.00	RISER PIPE ASSEMBLY	
LS					
0861 0001		520	\$16.00	CLEANING SEDIMENTATION STRUCTURES	\$ 8,320.00
CY					
0864 0001		300	\$30.00	DIVERSION DITCH	\$ 9,000.00
LF					
0866 0005			\$8.00	HEAVY DUTY SILT BARRIER FENCE	
LF					
0867 0018		8,470	\$10.00	COMPOST FILTER SOCK, 18" DIAMETER	\$ 84,700.00
LF					
0874 0001		2	\$1,200.00	TEMPORARY RISER PIPE ASSEMBLY	\$ 2,400.00
EACH					
0875 0001			\$4,000.00	CONCRETE OUTLET STRUCTURE, BASIN 1	
EACH					
0875 0002			\$4,000.00	CONCRETE OUTLET STRUCTURE, BASIN 2	
EACH					
0875 0003			\$4,000.00	CONCRETE OUTLET STRUCTURE, BASIN 3	
EACH					
0901 0001			\$650,000.00	MAINTENANCE AND PROTECTION OF TRAFFIC DURING CONSTRUCTION	
LS					

SR 95, SECTION BR0 - CDM SMITH

ITEM NO.		QUANTITY	UNIT PRICE	DESCRIPTION OF ITEM	TOTALS
0901 0100		100	\$500.00	SHADOW VEHICLE	\$ 50,000.00
DAY					
0901 0120		2	\$5,000.00	SPEED DISPLAY SIGN	\$ 10,000.00
EACH					
0901 0202		10	\$4,000.00	FLOODLIGHTS	\$ 40,000.00
EACH					
0901 0203		5	\$4,000.00	ARROW PANEL	\$ 20,000.00
EACH					
0901 0320		45,500	\$0.25	4" STANDARD PAVEMENT MARKINGS, PAINT & BEADS, YELLOW	\$ 11,375.00
LF					
0901 0321		6,000	\$0.30	6" STANDARD PAVEMENT MARKINGS, PAINT & BEADS, YELLOW	\$ 1,800.00
LF					
0901 0330		1,600	\$0.25	4" STANDARD PAVEMENT MARKINGS, PAINT & BEADS, WHITE	\$ 400.00
LF					
0901 0331		77,000	\$0.30	6" STANDARD PAVEMENT MARKINGS, PAINT & BEADS, WHITE	\$ 23,100.00
LF					
0901 0334		1,500	\$4.00	24" STANDARD PAVEMENT MARKINGS, PAINT & BEADS, WHITE	\$ 6,000.00
LF					
0901 0360			\$11.00	TEMPORARY NONPLOWABLE RAISED PAVEMENT MARKER, (TWO WAY Y/Y)	
EACH					
0901 0450		5	\$17,000.00	3-LINE CHANGEABLE MESSAGE SIGN WITH TELECOMMUNICATIONS	\$ 85,000.00
EACH					
0910 0002			\$1,800.00	JUNCTION BOXES J.B.-2	
EACH					
0910 0006			\$1,000.00	JUNCTION BOXES J.B.-25	
EACH					
0910 0154			\$1,600.00	POLE FOUNDATION, TYPE FC	
EACH					
0910 0242			\$2,800.00	STEEL LIGHTING POLE WITH 6-FOOT BRACKET ARM (30-FOOT MOUNTING HEIGHT) TYPE A	
EACH					

SR 95, SECTION BR0 - CDM SMITH

ITEM NO.		QUANTITY	UNIT PRICE	DESCRIPTION OF ITEM	TOTALS
0910 0248			\$2,900.00	STEEL LIGHTING POLE WITH 12-FOOT BRACKET ARM (30-FOOT MOUNTING HEIGHT) TYPE A	
EACH					
0910 0250			\$3,000.00	STEEL LIGHTING POLE WITH 15-FOOT BRACKET ARM (30-FOOT MOUNTING HEIGHT) TYPE A	
EACH					
0910 0322			\$3,000.00	STEEL LIGHTING POLE WITH 6-FOOT BRACKET ARM (40-FOOT MOUNTING HEIGHT) TYPE A	
EACH					
0910 0330			\$3,200.00	STEEL LIGHTING POLE WITH 15-FOOT BRACKET ARM (40-FOOT MOUNTING HEIGHT) TYPE A	
EACH					
0910 0332			\$3,500.00	STEEL LIGHTING POLE WITH 20-FOOT BRACKET ARM (40-FOOT MOUNTING HEIGHT) TYPE A	
EACH					
0910 0333			\$3,800.00	STEEL LIGHTING POLE WITH 25-FOOT BRACKET ARM (40-FOOT MOUNTING HEIGHT) TYPE A	
EACH					
0910 2825			\$500.00	100-WATT HIGH PRESSURE SODIUM LUMINAIRE, ARM MOUNT	
EACH					
0910 2826			\$500.00	150-WATT HIGH PRESSURE SODIUM LUMINAIRE, ARM MOUNT	
EACH					
0910 2828			\$350.00	250-WATT HIGH PRESSURE SODIUM LUMINAIRE, ARM MOUNT	
EACH					
0910 3072			\$950.00	100-WATT HIGH PRESSURE SODIUM LUMINAIRE, OVER-HEAD MOUNT	
EACH					
0910 3073			\$950.00	150-WATT HIGH PRESSURE SODIUM LUMINAIRE, OVER-HEAD MOUNT	
EACH					
0910 4114			\$2.25	AWG 4 UNDERGROUND CABLE, COPPER, 1 CONDUCTOR	
LF					
0910 5055			\$3.75	2" DIRECT BURIAL CONDUIT	
LF					
0910 5175			\$28.00	2" EXPOSED CONDUIT	
LF					
0910 5255			\$10.00	2" CONDUIT IN STRUCTURE	
LF					
0910 6000			\$11.00	TRENCH	
LF					
0910 7020			\$10,000.00	COMPLETE POWER SUPPLY SYSTEM	
EACH					
0910 7210			\$10,000.00	TESTING OF ENTIRE LIGHTING SYSTEM	
LS					

SR 95, SECTION BR0 - CDM SMITH

ITEM NO.		QUANTITY	UNIT PRICE	DESCRIPTION OF ITEM	TOTALS
0931 0001		580	\$25.00	POST MOUNTED SIGNS, TYPE B	\$ 14,500.00
SF					
0935 0001		90	\$35.00	POST MOUNTED SIGNS, TYPE F	\$ 3,150.00
SF					
0936 0010		3,500	\$40.00	STRUCTURE MOUNTED FLAT SHEET ALUMINUM SIGNS WITH STIFFENERS	\$ 140,000.00
SF					
0936 0200			\$35.00	STRUCTURE MOUNTED FLAT SHEET ALUMINUM SIGNS	
SF					
0937 0106		140	\$25.00	GUIDE RAIL MOUNTED DELINEATOR TYPE B, (W/B)	\$ 3,500.00
EACH					
0937 0113		140	\$25.00	GUIDE RAIL MOUNTED DELINEATOR TYPE D, (W/B)	\$ 3,500.00
EACH					
0937 0118		10	\$25.00	GUIDE RAIL MOUNTED DELINEATOR TYPE B, (W/R)	\$ 250.00
EACH					
0937 0200			\$6.00	BARRIER MOUNTED DELINEATOR, SIDE-MOUNT TYPE R, (Y/B)	
EACH					
0937 0201			\$6.00	BARRIER MOUNTED DELINEATOR, SIDE-MOUNT TYPE R, (W/B)	
EACH					
0937 0203		40	\$5.00	BARRIER MOUNTED DELINEATOR, SIDE-MOUNT TYPE O, (W/B)	\$ 200.00
EACH					
0937 0205		40	\$9.50	BARRIER MOUNTED DELINEATOR, TOP-MOUNT TYPE P, (W/B)	\$ 380.00
EACH					
0937 0216		30	\$6.00	BARRIER MOUNTED DELINEATOR, SIDE-MOUNT TYPE R, (W/R)	\$ 180.00
EACH					
0963 0001		102,700	\$1.50	PAVEMENT MARKING REMOVAL	\$ 154,050.00
SF					
0937 0323		30	\$40.00	FLEXIBLE DELINEATOR POST, GROUND-MOUNT TYPE GM-1, RED POST WITH WHITE SHEETING	\$ 1,200.00
EACH					
0937 0330		70	\$40.00	FLEXIBLE DELINEATOR POST, GROUND-MOUNT TYPE GM-2, WHITE POST WITH WHITE/BLANK SHEETING	\$ 2,800.00
EACH					
0960 0021		900	\$5.00	24" WHITE HOT THERMOPLASTIC PAVEMENT MARKINGS	\$ 4,500.00
LF					
0960 0101		20	\$160.00	WHITE HOT THERMOPLASTIC LEGEND, "ONLY", 8' - 0"	\$ 3,200.00
EACH					

SR 95, SECTION BR0 - CDM SMITH

ITEM NO.		QUANTITY	UNIT PRICE	DESCRIPTION OF ITEM	TOTALS
0960 0118		30	\$160.00	WHITE HOT THERMOPLASTIC LEGEND, "BICYCLE WITH RIDER", 8' - 0" X 4'-0"	\$ 4,800.00
EACH					
0960 0220		30	\$160.00	WHITE HOT THERMOPLASTIC LEGEND, "STRAIGHT ARROW", 12' - 0" X 1' - 8"	\$ 4,800.00
EACH					
0960 0222		10	\$160.00	WHITE HOT THERMOPLASTIC LEGEND, "RIGHT ARROW", 12' - 0" X 3' - 0"	\$ 1,600.00
EACH					
0960 0224		10	\$160.00	WHITE HOT THERMOPLASTIC LEGEND, "LEFT ARROW", 12' - 0" X 3' - 0"	\$ 1,600.00
EACH					
0960 0232		10	\$400.00	WHITE HOT THERMOPLASTIC LEGEND, "LANE REDUCTION TRANSITION ARROW - RIGHT LANE", 18' - 0" X 5' - 6"	\$ 4,000.00
EACH					
0964 0005		21,900	\$0.75	6" WHITE EPOXY PAVEMENT MARKINGS	\$ 16,425.00
LF					
0964 0006		14,600	\$0.75	6" YELLOW EPOXY PAVEMENT MARKINGS	\$ 10,950.00
LF					
0964 0008			\$1.00	8" WHITE EPOXY PAVEMENT MARKINGS	
LF					
0964 0021			\$4.50	24" WHITE EPOXY PAVEMENT MARKINGS	
LF					
0964 0022		900	\$6.50	24" YELLOW EPOXY PAVEMENT MARKINGS	\$ 5,850.00
EACH					
0964 0232			\$375.00	WHITE EPOXY LEGEND, "LANE REDUCTION TRANSITION ARROW - RIGHT LANE" , 18'-0" X 5'-6"	
EACH					
0964 0233			\$325.00	WHITE EPOXY LEGEND, "LANE REDUCTION TRANSITION ARROW - LEFT LANE" , 18'-0" X 5'-6"	
EACH					
0966 0014			\$25.00	SNOWPLOWABLE RAISED PAVEMENT MARKER TWO WAY HOLDER WITH REFLECTOR (Y/R)	
EACH					
0966 0015			\$25.00	SNOWPLOWABLE RAISED PAVEMENT MARKER TWO WAY HOLDER WITH REFLECTOR (W/R)	
EACH					
0966 0017			\$30.00	SNOWPLOWABLE RAISED PAVEMENT MARKER TWO WAY HOLDER WITH REFLECTOR (Y/B)	
EACH					

SR 95, SECTION BR0 - CDM SMITH

ITEM NO.		QUANTITY	UNIT PRICE	DESCRIPTION OF ITEM	TOTALS
0966 0018		30	\$25.00	SNOWPLOWABLE RAISED PAVEMENT MARKER TWO WAY HOLDER WITH REFLECTOR (W/B)	\$ 750.00
EACH					
0971 0001		20	\$120.00	REMOVE POST MOUNTED SIGNS, TYPE B	\$ 2,400.00
EACH					
0975 0001		10	\$120.00	REMOVE POST MOUNTED SIGNS, TYPE F	\$ 1,200.00
EACH					
1005 0800			\$30.00	TIMBER PILES	
LF					
1005 1103			\$80.00	STEEL BEAM BEARING PILES, HP12X53	
LF					
1005 1153			\$150.00	STEEL BEAM PILE TIP REINFORCEMENT, HP 12X53	
EACH					
1006 0211		700	\$1,000.00	60" DIAMETER DRILLED CAISSONS, SHAFT SECTION	\$ 700,000.00
LF					
1085 0626			\$1,600.00	8' X 4' PRECAST REINFORCED CONCRETE BOX CULVERT SEGMENTS	
LF					
1085 0632			\$1,800.00	9' X 5' PRECAST REINFORCED CONCRETE BOX CULVERT SEGMENTS	
LF					
1085 0643			\$2,000.00	10' X 7' PRECAST REINFORCED CONCRETE BOX CULVERT SEGMENTS	
LF					
			\$1,200.00	MOMENT SLAB (AT GRADE), 12" DEPTH	
SY					
8010 0001		1	\$5,240,000.00	ARAMINGO AVENUE BRIDGE OVER FRANKFORD CREEK	\$ 5,240,000.00
LS					
9000 0001		1,794	\$60.00	PLAIN CEMENT CONCRETE BASE COURSE, 8" DEPTH	\$ 107,640.00
SY					
9000 0002		53	\$5.00	PAVEMENT SAWCUTTING	\$ 265.00
LF					
9000 0003		1,159	\$30.00	PLAIN CEMENT CONCRETE CURB, 6" REVEAL	\$ 34,770.00
LF					
9000 0004		9	\$1,900.00	4' PRECAST STANDARD CITY INLET BOX	\$ 17,100.00
EACH					
9000 0005		9	\$500.00	4' OPEN MOUTH GRATE INLET TOP, BICYCLE SAFE STEEL GRATE	\$ 4,500.00
EACH					
9000 0501		10	\$10,000.00	6" FIRE HYDRANT	\$ 100,000.00
EACH					

SR 95, SECTION BR0 - CDM SMITH

ITEM NO.		QUANTITY	UNIT PRICE	DESCRIPTION OF ITEM	TOTALS
9000 0502		10	\$1,500.00	REMOVE EXISTING FIRE HYDRANT	\$ 15,000.00
EACH					
9000 0503		1	\$424,000.00	STREET LIGHTING, RAMPS	\$ 424,000.00
LS					
9000 0504		1	\$1,321,000.00	STREET LIGHTING, CITY STREETS	\$ 1,321,000.00
LS					
9000 0505		1	\$140,000.00	SIGN LIGHTING	\$ 140,000.00
LS					
9000 0506		1	\$420,000.00	TRAFFIC SINGALS, ARAMINGO AVE, PERMANENT	\$ 420,000.00
LS					
9000 0507		200,000	\$1.00	TREATMENT OF CONTAMINATED DISCHARGES FROM E&S BMPS	\$ 200,000.00
DOLLA					
9000 0508			\$150,000.00	ARAMINGO ITS STRUCTURES	
LS					
9000 0509		2,052	\$22.00	BIORETENTION SHRUBS	\$ 45,144.00
EACH					
9000 0510		103	\$150.00	BIORETENTION SEEDING	\$ 15,450.00
LB					
9000 0511		1,266	\$44.00	BIORETENTION MULCH, 2" DEPTH	\$ 55,704.00
CY					
9000 0512		513	\$226.00	BIORETENTION TREES	\$ 115,938.00
EACH					
9000 0513		1	\$60,000.00	ADDITIONAL LANDSCAPING	\$ 60,000.00
EACH					
9000 0802		73	\$350.00	INLET PROTECTION	\$ 25,550.00
EACH					
9000 0803		400		SANDBAG COFFERDAM	
EACH					
9000 0807				SEDIMENT BASIN BAFFLE	
LF					
9000 0812		2	\$80.00	SEDIMENT CLEANOUT MARKER	\$ 160.00
EACH					
9000 0814		200,000	\$1.00	TREATMENT OF CONTAMINATED SEDIMENT	\$ 200,000.00
DOLLA					
9000 0815		530	\$100.00	TEMPORARY 18" PIPE	\$ 53,000.00
DOLLA					
9000 0816		6	\$1,200.00	CONCRETE WASH OUT FACILITY	\$ 7,200.00
EACH					

SR 95, SECTION BR0 - CDM SMITH

ITEM NO.		QUANTITY	UNIT PRICE	DESCRIPTION OF ITEM	TOTALS
9000 0817 EACH		672	\$800.00	CAUSEWAY PIPES	\$ 537,600.00
9000 0818 EACH		3	\$50,000.00	TIDE GATE	\$ 150,000.00
9000 0820 SY		34,440	\$20.00	AMENDED SOILS, 24" DEPTH	\$ 688,800.00
9000 0821 SY		5	\$200.00	TEMPORARY INLET CAPS	\$ 1,000.00
9203 0004 LF		14,900	\$7.00	SAWCUTTING	\$ 104,300.00
9601 0760 LF		5,700	\$125.00	12" DUCTILE IRON PIPE	\$ 712,500.00
9605 0800 LF		2	\$20,000.00	84" TYPE D-W ENDWALL	\$ 40,000.00
9605 1480 EACH			\$100,000.00	MANHOLE, SPECIAL, JUNCTION CHAMBER	
9605 1484 EACH		1	\$6,000.00	MANHOLE, TYPE 4 BOX	\$ 6,000.00
9605 1486 EACH		3	\$7,000.00	MANHOLE, TYPE 6 BOX	\$ 21,000.00
9605 1487 EACH		2	\$9,000.00	MANHOLE, TYPE 7 BOX	\$ 18,000.00
9605 1489 EACH		2	\$10,000.00	MANHOLE, TYPE 9 BOX	\$ 20,000.00
9605 2002 EACH		45	\$4,000.00	4' PRECAST STANDARD CITY INLET BOX	\$ 180,000.00
9605 2003 EACH		5	\$3,000.00	4' PRECAST OPEN MOUTH INLET TOP	\$ 15,000.00
9605 2010 EACH		15	\$5,000.00	6' PRECAST STANDARD CITY INLET BOX	\$ 75,000.00
9605 2011 EACH		15	\$4,000.00	6' PRECAST OPEN MOUTH INLET TOP	\$ 60,000.00
9605 2102 SET		40	\$5,500.00	4' PRECAST COMBINATION INLET WITH BICYCLE SAFE GRATE	\$ 220,000.00
9605 2731 SET		5	\$1,500.00	TYPE M CONCRETE TOP UNIT AND BICYCLE SAFE GRATE, 1' UNDER BARRIER	\$ 7,500.00
9605 2852 SET		3	\$1,500.00	TYPE M CONCRETE TOP UNIT AND BICYCLE SAFE GRATE, 1' UNDER BARRIER	\$ 4,500.00

SR 95, SECTION BR0 - CDM SMITH

ITEM NO.		QUANTITY	UNIT PRICE	DESCRIPTION OF ITEM	TOTALS
9627 0010		3,300	\$28.00	TEMPORARY CONCRETE BARRIER STIFFENING	\$ 92,400.00
LF					
9628 0011		9,060	\$8.00	RESET TEMPORARY CONCRETE BARRIER STIFFENING	\$ 72,480.00
LF					
9901 0711			\$253,500.00	TEMPORARY TRAFFIC SIGNALS (PERMANENT ONLY), ARAMINGO AVENUE	
LS					
9901 2005		15,000	\$1.00	REIMBURSEMENT OF PHILADELPHIA POLICE DEPARTMENT HIGHWAY PATROL SERVICES	\$ 15,000.00
DOLLA					
9901 2009		20,000	\$1.00	REPAIR TEMPORARY IMPACT ATTENUATING DEVICE, TYPE V (STANDARD), TEST LEVEL 3	\$ 20,000.00
DOLLA					
9901 2101		50	20,800.00	SERVICE PATROL	\$ 1,040,000.00
HOOR					
9901 2103		50	100.00	CLASS 2 TOW TRUCK	\$ 5,000.00
HOOR					
9999 9980			\$1.00	INCIDENT MANAGEMENT PLAN	
DOLLA					
9948 0130		4	\$20,000.00	REMOVAL OF EXISTING STEEL SIGN STRUCTURE	\$ 80,000.00
EACH					
9948 0400		5	\$250,000.00	STEEL SIGN STRUCTURE - MONOPIPE	\$ 1,250,000.00
EACH					
9948 0402		5	\$100,000.00	STEEL SIGN STRUCTURE - CANTILEVER MONOPIPE	\$ 500,000.00
EACH					
			\$2,200.00	FAIR CLOTH SKIMMER	
EACH					
			\$7,500.00	TEMPORARY DEWATERING DEVICE	
EACH					
			\$300.00	INLET PROTECTION	
EACH					
			\$250.00	SANDBAG COFFERDAM	
LF					
			\$40.00	TEMPORARY BARRIER	
LF					
			\$40.00	SHEET PILING	
LF					
			\$75.00	TEMPORARY 48" CMP PIPE	
LF					
			\$60.00	SEDIMENT BASIN BAFFLE	
LF					

SR 95, SECTION BR0 - CDM SMITH

ITEM NO.		QUANTITY	UNIT PRICE	DESCRIPTION OF ITEM	TOTALS
			\$10.00	GOEGRID REINFORCEMENT	
SY					
			\$5.00	BASE REINFORCEMENT GEOTEXTILE	
SY					
			\$300.00	PRECAST CONCRETE PILE CAP	
EACH					
			\$2,600.00	TRASH RACK AND ANTI-VORTEX DEVICE ASSEMBLY	
EACH					
			\$150.00	SEDIMENT CLEANOUT MARKER	
EACH					
			\$50,000.00	TIDE GATE	
EACH					
			\$300,000.00	TRAFFIC SIGNALS	
LS					
			\$90,000.00	OTHER UTILITY RELOCATION	
LS					
			\$1,185,790.00	STRUCTURE, RAMP A	
LS					
			\$20,690,000.00	STRUCTURE, RAMP B REDECK OPTION	
LS					
			\$1,808,848.00	STRUCTURE, RAMP C WITH OVERBUILD	
LS					
			\$8,333,244.00	STRUCTURE, RAMP D	
LS					
			\$9,241,600.00	STRUCTURE, RAMP EE	
LS					
			\$282,910.00	STRUCTURE, RAMP F	
LS					

SR 95, SECTION BR0 - CDM SMITH					
ITEM NO.		QUANTITY	UNIT PRICE	DESCRIPTION OF ITEM	TOTALS
			\$7,314,400.00	STRUCTURE, RAMP I, NEW	
LS					
			\$7,327,607.00	STRUCTURE, RAMP I, WIDENING	
LS					
			\$11,784,235.00	STRUCTURE, RAMP JJ	
LS					
			\$1,621,835.00	STRUCTURE, WALL C	
LS					
Sub-Total SR 95 Roadway Construction					\$ 83,558,013.47
CONTINGENCY = 20%					\$16,711,603
Total SR 95 Roadway Construction					\$100,269,616

PENNSYLVANIA DEPARTMENT OF TRANSPORTATION
SR 0095, SECTION BR3
CITY OF PHILADELPHIA, PHILADELPHIA COUNTY
2013 TIP UPDATE - PRELIMINARY CONSTRUCTION COST ESTIMATE
STV INCORPORATED
CDM SMITH
July 31, 2013

SUMMARY OF COSTS			
	TOTAL	STV	CDM Smith
ROADWAY CONSTRUCTION			
SR 95	\$ 36,897,000	\$ 36,897,000	\$ -
STRUCTURES			
I-95 OVER FRANKFORD CREEK	\$ 6,928,000	\$ 6,928,000	\$ -
I-95 OVER ORTHODOX, PEARCE AND MARGARET STREET	\$ 86,034,000	\$ -	\$ 86,034,000
RAMP G-H OVER RAMP YY	\$ 18,054,000	\$ 18,054,000	\$ -
RAMP G OVER I-95	\$ 9,362,000	\$ 9,362,000	\$ -
RAMP H OVER JUNIATA & ALMOND STREET	\$ 6,810,000	\$ 6,810,000	\$ -
WALL A	\$ 2,702,000	\$ 2,702,000	\$ -
WALL C-2	\$ 1,451,000	\$ 1,451,000	\$ -
WALL (MARGARET STREET TO TACONY STREET) (NB)	\$ 4,700,000	\$ -	\$ 4,700,000
WALL (MARGARET STREET TO TACONY STREET) (SB)	\$ 4,560,000	\$ -	\$ 4,560,000
SIGN STRUCTURES	\$ 3,000,000	\$ 2,500,000	\$ 500,000
DEMOLITION OF EXISTING STRUCTURE, I-95 OVER EARTH FILL	\$ 12,324,000	\$ 12,324,000	\$ -
DEMOLITION OF EXISTING STRUCTURE, I-95 OVER ORTHODOX AND PEARCE ST	\$ 6,440,000	\$ 6,440,000	\$ -
DEMOLITION OF EXISTING STRUCTURE, I-95 OVER MARGARET STREET	\$ 1,694,000	\$ -	\$ 1,694,000
DEMOLITION OF EXISTING STRUCTURE, I-95 OVER RAMP J	\$ 759,000	\$ -	\$ 759,000
DEMOLITION OF EXISTING STRUCTURE, NB COLLECTOR/DISTRIBUTOR	\$ 3,566,000	\$ 3,566,000	\$ -
DEMOLITION OF EXISTING STRUCTURE, SB COLLECTOR/DISTRIBUTOR	\$ 2,482,000	\$ 2,482,000	\$ -
DEMOLITION OF EXISTING STRUCTURE, RAMP G OVER I-95	\$ 1,561,000	\$ 1,561,000	\$ -
DEMOLITION OF EXISTING STRUCTURE, RAMP H OVER JUNIATA & ALMOND ST	\$ 2,754,000	\$ 2,754,000	\$ -
DEMOLITION OF EXISTING STRUCTURE, RAMP J OVER MARGARET STREET	\$ 381,000	\$ -	\$ 381,000
DEMOLITION OF EXISTING STRUCTURE, RAMP K OVER ARAMINGO AVE	\$ 2,591,000	\$ -	\$ 2,591,000
DEMOLITION OF EXISTING STRUCTURE, RAMP X OVER EARTH FILL	\$ 1,737,000	\$ 1,737,000	\$ -
DEMOLITION OF EXISTING STRUCTURE, RAMP Y OVER EARTH FILL	\$ 1,966,000	\$ 1,966,000	\$ -
REMOVAL OF EXISTING SIGN STRUCTURES	\$ 1,000,000	\$ 500,000	\$ 500,000
STRUCTURE SUB TOTAL	\$ 182,856,000	\$ 81,137,000	\$ 101,719,000
UTILITIES			
PWD RELOCATION (ALMOND STREET)	\$ 1,500,000	\$ 1,500,000	\$ -
PWD RELOCATION (OLD FRANKFORD CREEK OUTFALL)	\$ 10,000,000	\$ 10,000,000	\$ -
OTHER MISCELLANEOUS UTILITY RELOCATIONS	\$ 2,500,000	\$ 1,250,000	\$ 1,250,000
GEOTECHNICAL			
COMPENSATING FILL AND COLUMN SUPPORTED EMBANKMENT	\$ 10,827,000	\$ 10,827,000	\$ -
TRAFFIC CONTROL			
ENTIRE PROJECT	\$ 4,917,000	\$ 4,917,000	\$ -
E&SPC			
ENTIRE PROJECT	\$ 922,000	\$ 922,000	\$ -
DRAINAGE			
ENTIRE PROJECT	\$ 5,256,000	\$ 5,256,000	\$ -
SWM			
ENTIRE PROJECT	\$ 5,000,000	\$ 5,000,000	\$ -

PENNSYLVANIA DEPARTMENT OF TRANSPORTATION
SR 0095, SECTION BR3
CITY OF PHILADELPHIA, PHILADELPHIA COUNTY
2013 TIP UPDATE - PRELIMINARY CONSTRUCTION COST ESTIMATE
STV INCORPORATED
CDM SMITH
July 31, 2013

HIGHWAY LIGHTING			
ENTIRE PROJECT	\$ 1,323,000	\$ 823,000	\$ 500,000
SIGNING			
SIGN FABRS ONLY SIGN STRUCTURES LISTED UNDER STRUCTURES ABOVE	\$ 332,000	\$ 182,000	\$ 150,000
PAVEMENT MARKING			
ENTIRE PROJECT	\$ 51,000	\$ 51,000	\$ -
TRAFFIC SIGNALS			
ENTIRE PROJECT	\$ 30,000	\$ 30,000	\$ -
ITS			
ENTIRE PROJECT	\$ 3,000,000	\$ 1,500,000	\$ 1,500,000
TOTAL (NOT INCLUDING UTILITIES)	\$ 251,411,000	\$ 147,542,000	\$ 103,869,000
CONTINGENCY = 20%	\$ 50,282,000	\$ 29,508,000	\$ 20,774,000
TOTAL WITH CONTINGENCY	\$ 315,693,000	\$ 189,800,000	\$ 125,893,000

NOTES:

1. UNIT COSTS ARE BASED ON PENNDOT ECMS ITEM PRICE HISTORY OR PREVIOUS SIMILAR CONTRACTS.
2. ASSUME ALL EXCAVATION WILL BE DISPOSED OFF-SITE AT A PROPERLY CERTIFIED AND APPROVED LOCATION.
3. ASSUMES BORROW MATERIAL WILL BE READILY ACCESSIBLE FROM NEARBY LOCATION
4. NO COSTS INCLUDED FOR RIGHT OF WAY ACQUISITION

SR 95, SECTION BR2					OCTOBER, 2011
ITEM NO.		QUANTITY	UNIT PRICE	DESCRIPTION OF ITEM	TOTALS
0201 0001 LS		1	\$200,000.00	CLEARING AND GRUBBING	\$ 200,000.00
0203 0001 CY		120,038	\$75.00	CLASS 1 EXCAVATION	\$ 9,002,850.00
0204 0150 CY		10,491	\$80.00	CLASS 4 EXCAVATION	\$ 839,280.00
0205 0100 CY		45,832	\$21.00	FOREIGN BORROW EXCAVATION	\$ 962,472.00
		63,509	\$65.00	ELASTIZELL CLASS II	\$ 4,128,085.00
		11,806	\$65.00	ELASTIZELL CLASS IV	\$ 767,390.00
0212 0006 LF		20	\$6.00	GEOTEXTILE, CLASS 3, TYPE B	\$ 120.00
0212 0015 SY		200	\$22.00	GEOTEXTILE, CLASS 4, TYPE B	\$ 4,400.00
0309 0634 SY		19,139	\$43.50	SUPERPAVE ASPHALT MIXTURE DESIGN, HMA BASE COURSE, PG 64-22, 10 TO < 30 MILLION ESALS, 25.0 MM MIX, 10" DEPTH	\$ 832,546.50
0350 0106 SY		48,877	\$8.00	SUBBASE 6" DEPTH (NO. 2A)	\$ 391,016.00
0350 0110 SY		19,139	\$13.00	SUBBASE 10" DEPTH (NO. 2A)	\$ 248,807.00
0360 0001 SY		48,877	\$14.00	ASPHALT TREATED PERMEABLE BASE COURSE, 4" DEPTH	\$ 684,278.00
0409 4541 SY		19,139	\$18.00	SUPERPAVE ASPHALT MIXTURE DESIGN, HMA WEARING COURSE, RPS, PG 64-22, 3 TO < 10 MILLION ESALS, 12.5 MM MIX, 1 1/2" DEPTH, SRL-E	\$ 344,502.00
0409 6550 SY		4,778	\$12.50	SUPERPAVE ASPHALT MIXTURE DESIGN, HMA BINDER COURSE, PG 64-22, 3 TO < 10 MILLION ESALS, 19.0 MM MIX, 2 1/2" DEPTH	\$ 59,725.00
0460 0001 SY		4,778	\$0.50	BITUMINOUS TACK COAT	\$ 2,389.00
0501 0036 SY		6,171	\$75.00	PLAIN CEMENT CONCRETE PAVEMENT, 12" DEPTH	\$ 462,825.00
4501- 0042 SY		42,706	\$95.00	PLAIN CEMENT CONCRETE PAVEMENT, 15" DEPTH	\$ 4,057,070.00
0503 0001 SY		48,877	\$1.00	PROTECTIVE COATING FOR CEMENT CONCRETE PAVEMENTS AND SHOULDERS	\$ 48,877.00
0504 0001 LF		493	\$200.00	PAVEMENT RELIEF JOINT	\$ 98,600.00
0601 7014 LF		10,350	\$80.00	18" REINFORCED CONCRETE PIPE, TYPE A, 15' - 2' FILL, 100 YEAR DESIGN LIFE	\$ 828,000.00
0601 7028 LF		3,000	\$100.00	24" REINFORCED CONCRETE PIPE, TYPE A, 15' - 2' FILL, 100 YEAR DESIGN LIFE	\$ 300,000.00
0601 7058 LF		1,500	\$140.00	36" REINFORCED CONCRETE PIPE, TYPE A, 15' - 3' FILL, 100 YEAR DESIGN LIFE	\$ 210,000.00
9601 0001 LF		360	\$75.00	TEMPORARY 48" CMP PIPE	\$ 27,000.00

SR 95, SECTION BR2					OCTOBER, 2011
ITEM NO.		QUANTITY	UNIT PRICE	DESCRIPTION OF ITEM	TOTALS
0605 2780 SET		153	\$850.00	TYPE M FRAME AND GRATE	\$ 130,050.00

SR 95, SECTION BR2				OCTOBER, 2011	
ITEM NO.		QUANTITY	UNIT PRICE	DESCRIPTION OF ITEM	TOTALS
0605 2850		153	\$1,900.00	STANDARD INLET BOX, HEIGHT <= 10'	\$ 290,700.00
EACH					
0605 2850		4	\$1,700.00	DOUBLE INLET	\$ 6,800.00
EACH					
0605 2850		4	\$3,800.00	DOUBLE INLET BOX	\$ 15,200.00
EACH					
0608 0001		1	\$4,800,000.00	MOBILIZATION	\$ 4,800,000.00
LS					
0609 0002		1	\$63,000.00	INSPECTOR'S FIELD OFFICE AND INSPECTION FACILITIES, TYPE A	\$ 63,000.00
LS					
0619 0640		1	\$16,000.00	PERMANENT IMPACT ATTENUATING DEVICE, TYPE V (REUSABLE), TEST LEVEL 3	\$ 16,000.00
EACH					
0622 0001		2,651	\$60.00	CONCRETE GLARE SCREEN	\$ 159,060.00
LF					
0623 0050		8,919	\$60.00	SINGLE FACE CONCRETE BARRIER, 34" HEIGHT	\$ 535,140.00
LF					
0627 0001		18,350	\$22.00	TEMPORARY CONCRETE BARRIER	\$ 403,700.00
LF					
0628 0001		26,801	\$5.00	RESET TEMPORARY CONCRETE BARRIER	\$ 134,005.00
LF					
0686 0010		1	\$200,000.00	CONSTRUCTION SURVEYING, TYPE A	\$ 200,000.00
LS					
0689 0002		1	\$3,000.00	NETWORK SCHEDULE	\$ 3,000.00
LS					
0696 0580		6	\$4,000.00	TEMPORARY IMPACT ATTENUATING DEVICE, TYPE IV, TEST LEVEL 3	\$ 24,000.00
EACH					
0697 0580		13	\$900.00	RESET TEMPORARY IMPACT ATTENUATING DEVICE, TYPE IV, TEST LEVEL 3	\$ 11,700.00
EACH					
0703 0020		100	\$15.00	NO. 1 COARSE AGGREGATE	\$ 1,500.00
CY					
0703 0025		5	\$15.00	NO. 57 COARSE AGGREGATE	\$ 75.00
CY					
0703 0028		750	\$15.00	NO. 5 COARSE AGGREGATE	\$ 11,250.00
CY					
0804 0013		100	\$16.00	SEEDING AND SOIL SUPPLEMENTS - FORMULA D	\$ 1,600.00
LB					
0804 0014		50	\$30.00	SEEDING - FORMULA E	\$ 1,500.00
LB					
0804 0020		250	\$12.00	SEEDING AND SOIL SUPPLEMENTS - FORMULA L	\$ 3,000.00
LB					
0805 0022		3	\$500.00	MULCHING - STRAW	\$ 1,500.00
TON					
0805 0024		1	\$870.00	MULCHING - WOOD FIBER	\$ 870.00
TON					
0806 0050		25,000	\$1.00	EROSION CONTROL MAT	\$ 25,000.00
SY					
0808 7170		1,700	\$5.00	SOFT RUSH (PLUG)	\$ 8,500.00
EACH					

SR 95, SECTION BR2					OCTOBER, 2011
ITEM NO.		QUANTITY	UNIT PRICE	DESCRIPTION OF ITEM	TOTALS
0808 7221		1,700	\$5.00	WOOLGRASS (PLUG)	\$ 8,500.00
EACH					
0811 0003		250	\$2.75	TEMPORARY PROTECTIVE FENCE	\$ 687.50
LF					
0845 0002		1	\$50,000.00	UNFORESEEN WATER POLLUTION CONTROL	\$ 50,000.00
LS					
0850 0032		5	\$85.00	ROCK, CLASS R-4	\$ 425.00
CY					
0850 0034		2,000	\$60.00	ROCK, CLASS R-6	\$ 120,000.00
LB					
0855 0003		2	\$1,100.00	PUMPED WATER FILTER BAG	\$ 2,200.00
EACH					
0859 0020			\$7,000.00	RISER PIPE ASSEMBLY	
LS					
0861 0001		500	\$16.00	CLEANING SEDIMENTATION STRUCTURES	\$ 8,000.00
CY					
0864 0001		150	\$30.00	DIVERSION DITCH	\$ 4,500.00
LF					
0866 0005		3,000	\$10.00	HEAVY DUTY SILT BARRIER FENCE	\$ 30,000.00
LF					
		500	\$60.00	SEDIMENT BASIN BAFFLE	\$ 30,000.00
LF					
		3	\$2,200.00	FAIRCLOTH SKIMMER	\$ 6,600.00
EACH					
9859 0001		1	\$7,500.00	TEMPORARY DEWATERING DEVICE	\$ 7,500.00
EACH					
		60	\$250.00	INLET PROTECTION	\$ 15,000.00
EACH					
		1,200	\$160.00	SANDBAG COFFERDAM	\$ 192,000.00
LF					
		3	\$2,600.00	TRASH RACK AND ANTI-VORTEX ASSEMBLY	\$ 7,800.00
EACH					
		4	\$150.00	SEDIMENT CLEANOUT MARKER	\$ 600.00
EACH					
0901 0001		1	\$500,000.00	MAINTENANCE AND PROTECTION OF TRAFFIC DURING CONSTRUCTION	\$ 500,000.00
LS					
0901 0321		115,616	\$0.30	6" STANDARD PAVEMENT MARKINGS, PAINT & BEADS, YELLOW	\$ 34,684.80
LF					
0910 0002		11	\$1,800.00	JUNCTION BOXES J.B.-2	\$ 19,800.00
EACH					
0910 0006		21	\$1,000.00	JUNCTION BOXES J.B.-25	\$ 21,000.00
EACH					
0910 0154		19	\$1,600.00	POLE FOUNDATION, TYPE FC	\$ 30,400.00
EACH					
0910 0244		16	\$2,850.00	STEEL LIGHTING POLE WITH 8-FOOT BRACKET ARM (30-FOOT MOUNTING HEIGHT) TYPE A	\$ 45,600.00
EACH					
0910 0250		1	\$3,000.00	STEEL LIGHTING POLE WITH 15-FOOT BRACKET ARM (30-FOOT MOUNTING HEIGHT) TYPE A	\$ 3,000.00
EACH					

SR 95, SECTION BR2				OCTOBER, 2011	
ITEM NO.		QUANTITY	UNIT PRICE	DESCRIPTION OF ITEM	TOTALS
0910 0324		7	\$3,100.00	STEEL LIGHTING POLE WITH 8-FOOT BRACKET ARM (40-FOOT MOUNTING HEIGHT) TYPE A	\$ 21,700.00
EACH					
0910 0330		3	\$3,200.00	STEEL LIGHTING POLE WITH 15-FOOT BRACKET ARM (40-FOOT MOUNTING HEIGHT) TYPE A	\$ 9,600.00
EACH					
0910 0408		4	\$5,000.00	STEEL LIGHTING POLE WITH 12-FOOT BRACKET ARM (50-FOOT MOUNTING HEIGHT) TYPE A	\$ 20,000.00
EACH					
0910 0412		10	\$5,500.00	STEEL LIGHTING POLE WITH 20-FOOT BRACKET ARM (50-FOOT MOUNTING HEIGHT) TYPE A	\$ 55,000.00
EACH					
0910 0413		3	\$5,800.00	STEEL LIGHTING POLE WITH 25-FOOT BRACKET ARM (50-FOOT MOUNTING HEIGHT) TYPE A	\$ 17,400.00
EACH					
0910 2825		9	\$500.00	100-WATT HIGH PRESSURE SODIUM LUMINAIRE, ARM MOUNT	\$ 4,500.00
EACH					
0910 2826		9	\$500.00	150-WATT HIGH PRESSURE SODIUM LUMINAIRE, ARM MOUNT	\$ 4,500.00
EACH					
0910 2828		10	\$350.00	250-WATT HIGH PRESSURE SODIUM LUMINAIRE, ARM MOUNT	\$ 3,500.00
EACH					
0910 2830		17	\$600.00	400-WATT HIGH PRESSURE SODIUM LUMINAIRE, ARM MOUNT	\$ 10,200.00
EACH					
0910 3072		11	\$950.00	100-WATT HIGH PRESSURE SODIUM LUMINAIRE, OVER-HEAD MOUNT	\$ 10,450.00
EACH					
0910 4114		35,989	\$2.50	AWG 4 UNDERGROUND CABLE, COPPER, 1 CONDUCTOR	\$ 89,972.50
LF					
0910 5055		4,956	\$3.75	2" DIRECT BURIAL CONDUIT	\$ 18,585.00
LF					
0910 5175		418	\$28.00	2" EXPOSED CONDUIT	\$ 11,704.00
LF					
0910 5255		2,508	\$10.00	2" CONDUIT IN STRUCTURE	\$ 25,080.00
LF					
0910 6000		4,956	\$11.00	TRENCH	\$ 54,516.00
LF					
0910 7020		1	\$10,000.00	COMPLETE POWER SUPPLY SYSTEM	\$ 10,000.00
EACH					
0910 7210		1	\$10,000.00	TESTING OF ENTIRE LIGHTING SYSTEM	\$ 10,000.00
LS					
0936 0010		1,803	\$40.00	STRUCTURE MOUNTED FLAT SHEET ALUMINUM SIGNS WITH STIFFENERS	\$ 72,120.00
SF					
0936 0200		614	\$35.00	STRUCTURE MOUNTED FLAT SHEET ALUMINUM SIGNS	\$ 21,490.00
SF					
0964 0005		18,391	\$0.75	6" WHITE EPOXY PAVEMENT MARKINGS	\$ 13,793.25
LF					
0964 0006		11,581	\$0.75	6" YELLOW EPOXY PAVEMENT MARKINGS	\$ 8,685.75
LF					
0964 0008		3,104	\$1.00	8" WHITE EPOXY PAVEMENT MARKINGS	\$ 3,104.00
LF					
0964 0021		524	\$4.50	24" WHITE EPOXY PAVEMENT MARKINGS	\$ 2,358.00
LF					
0964 0233		3	\$375.00	WHITE EPOXY LEGEND, "LANE REDUCTION TRANSITION ARROW - LEFT LANE" , 18'-0" X 5'-6"	\$ 1,125.00
EACH					
		1	\$3,881,000.00	STRUCTURE, I-95 OVER FRANKFORD CREEK	\$ 3,881,000.00
LS					

SR 95, SECTION BR2					OCTOBER, 2011
ITEM NO.		QUANTITY	UNIT PRICE	DESCRIPTION OF ITEM	TOTALS
		1	\$19,908,000.00	STRUCTURE, I-95 ORTHODOX, PEARCE AND MARGARET STREET	\$ 19,908,000.00
LS					
			\$6,060,000.00	STRUCTURE, MARGARET STREET	
LS					
			\$827,000.00	STRUCTURE, CONRAIL OVER I-95	
LS					
			\$762,000.00	STRUCTURE, CONRAIL OVER RAMPS A & C	
LS					
		1	\$18,054,000.00	STRUCTURE, RAMP G-H OVER RAMP YY	\$ 18,054,000.00
LS					
		1	\$4,605,000.00	STRUCTURE, RAMP G OVER I-95	\$ 4,605,000.00
LS					
		1	\$2,624,000.00	STRUCTURE, RAMP H OVER JUNIATA & ALMOND STREET	\$ 2,624,000.00
LS					
			\$750,000.00	STRUCTURE, UTILITY BRIDGE OVER FRANKFORD CREEK	
LS					
		1	\$2,702,000.00	STRUCTURE, WALL A	\$ 2,702,000.00
LS					
		1	\$4,700,000.00	STRUCTURE, WALL (MARGARET STREET TO TACONY STREET)	\$ 4,700,000.00
LS					
		1	\$6,389,000.00	DEMOLITION OF EXISTING STRUCTURE, I-95 OVER EARTH FILL	\$ 6,389,000.00
LS					
		1	\$248,000.00	DEMOLITION OF EXISTING STRUCTURE, I-95 OVER RAMP J	\$ 248,000.00
LS					
		1	\$1,966,000.00	DEMOLITION OF EXISTING STRUCTURE, RAMP Y OVER EARTH FILL	\$ 1,966,000.00
LS					
		1	\$381,000.00	DEMOLITION OF EXISTING STRUCTURE, RAMP J OVER MARGARET STREET	\$ 381,000.00
LS					
9005			\$40.00	SHEET PILING	
0001					
LF					
		240	\$2,000.00	PIPE JACKING	\$ 480,000.00
LF					
Sub-Total SR 95 Roadway Construction					\$ 98,923,063.30
CONTINGENCY = 20%					\$19,784,613
Total SR 95 Roadway Construction					\$118,707,676

SR 95, SECTION BR3					OCTOBER, 2011
ITEM NO.		QUANTITY	UNIT PRICE	DESCRIPTION OF ITEM	TOTALS
0201 0001 LS		1	\$200,000.00	CLEARING AND GRUBBING	\$ 200,000.00
0203 0001 CY		85,239	\$75.00	CLASS 1 EXCAVATION	\$ 6,392,925.00
0204 0150 CY		2,757	\$80.00	CLASS 4 EXCAVATION	\$ 220,560.00
0205 0100 CY		6,606	\$21.00	FOREIGN BORROW EXCAVATION	\$ 138,726.00
		78,195	\$65.00	ELASTIZELL CLASS II	\$ 5,082,675.00
		13,061	\$65.00	ELASTIZELL CLASS IV	\$ 848,965.00
0212 0006 LF		20	\$6.00	GEOTEXTILE, CLASS 3, TYPE B	\$ 120.00
0212 0015 SY		200	\$22.00	GEOTEXTILE, CLASS 4, TYPE B	\$ 4,400.00
0309 0530 SY		4,819	\$35.00	SUPERPAVE ASPHALT MIXTURE DESIGN, HMA BASE COURSE, PG 64-22, 3 TO < 10 MILLION ESALS, 25.0 MM MIX, 8" DEPTH	\$ 168,665.00
0309 0634 SY		23,094	\$43.50	SUPERPAVE ASPHALT MIXTURE DESIGN, HMA BASE COURSE, PG 64-22, 10 TO < 30 MILLION ESALS, 25.0 MM MIX, 10" DEPTH	\$ 1,004,589.00
0350 0106 SY		46,387	\$8.00	SUBBASE 6" DEPTH (NO. 2A)	\$ 371,096.00
0350 0110 SY		23,094	\$13.00	SUBBASE 10" DEPTH (NO. 2A)	\$ 300,222.00
0360 0001 SY		46,387	\$14.00	ASPHALT TREATED PERMEABLE BASE COURSE, 4" DEPTH	\$ 649,418.00
0409 4541 SY		27,913	\$14.50	SUPERPAVE ASPHALT MIXTURE DESIGN, HMA WEARING COURSE, RPS, PG 64-22, 3 TO < 10 MILLION ESALS, 12.5 MM MIX, 1 1/2" DEPTH, SRL-E	\$ 404,738.50
0409 6550 SY		20,832	\$9.50	SUPERPAVE ASPHALT MIXTURE DESIGN, HMA BINDER COURSE, PG 64-22, 3 TO < 10 MILLION ESALS, 19.0 MM MIX, 2 1/2" DEPTH	\$ 197,904.00
0460 0001 SY		20,832	\$0.35	BITUMINOUS TACK COAT	\$ 7,291.20
0501 0036 SY		3,506	\$75.00	PLAIN CEMENT CONCRETE PAVEMENT, 12" DEPTH	\$ 262,950.00
4501 0042 SY		38,062	\$95.00	PLAIN CEMENT CONCRETE PAVEMENT, 15" DEPTH	\$ 3,615,890.00
0503 0001 SY		46,387	\$1.00	PROTECTIVE COATING FOR CEMENT CONCRETE PAVEMENTS AND SHOULDERS	\$ 46,387.00
0504 0001 LF		503	\$200.00	PAVEMENT RELIEF JOINT	\$ 100,600.00
0601 7014 LF		2,720	\$80.00	18" REINFORCED CONCRETE PIPE, TYPE A, 15' - 2' FILL, 100 YEAR DESIGN LIFE	\$ 217,600.00
0601 7028 LF		780	\$100.00	24" REINFORCED CONCRETE PIPE, TYPE A, 15' - 2' FILL, 100 YEAR DESIGN LIFE	\$ 78,000.00
0601 7058 LF		390	\$140.00	36" REINFORCED CONCRETE PIPE, TYPE A, 15' - 3' FILL, 100 YEAR DESIGN LIFE	\$ 54,600.00

SR 95, SECTION BR3					OCTOBER, 2011
ITEM NO.		QUANTITY	UNIT PRICE	DESCRIPTION OF ITEM	TOTALS
9601 0001		240	\$75.00	TEMPORARY 48" CMP PIPE	\$ 18,000.00
LF					
0605 2780		53	\$850.00	TYPE M FRAME AND GRATE	\$ 45,050.00
SET					

SR 95, SECTION BR3				OCTOBER, 2011	
ITEM NO.		QUANTITY	UNIT PRICE	DESCRIPTION OF ITEM	TOTALS
0605 2850		53	\$1,900.00	STANDARD INLET BOX, HEIGHT <= 10'	\$ 100,700.00
EACH					
0608 0001		1	\$3,300,000.00	MOBILIZATION	\$ 3,300,000.00
LS					
0609 0002		1	\$63,000.00	INSPECTOR'S FIELD OFFICE AND INSPECTION FACILITIES, TYPE A	\$ 63,000.00
LS					
0619 0640		1	\$16,000.00	PERMANENT IMPACT ATTENUATING DEVICE, TYPE V (REUSABLE), TEST LEVEL 3	\$ 16,000.00
EACH					
0623 0050		4,444	\$60.00	SINGLE FACE CONCRETE BARRIER, 34" HEIGHT	\$ 266,640.00
LF					
0627 0001		26,852	\$22.00	TEMPORARY CONCRETE BARRIER	\$ 590,744.00
LF					
0628 0001		23,437	\$5.00	RESET TEMPORARY CONCRETE BARRIER	\$ 117,185.00
LF					
0686 0010		1	\$200,000.00	CONSTRUCTION SURVEYING, TYPE A	\$ 200,000.00
LS					
0689 0002		1	\$3,000.00	NETWORK SCHEDULE	\$ 3,000.00
LS					
0696 0580		6	\$4,000.00	TEMPORARY IMPACT ATTENUATING DEVICE, TYPE IV, TEST LEVEL 3	\$ 24,000.00
EACH					
0697 0580		4	\$900.00	RESET TEMPORARY IMPACT ATTENUATING DEVICE, TYPE IV, TEST LEVEL 3	\$ 3,600.00
EACH					
0703 0020		100	\$15.00	NO. 1 COARSE AGGREGATE	\$ 1,500.00
CY					
0703 0025		5	\$15.00	NO. 57 COARSE AGGREGATE	\$ 75.00
CY					
0703 0028		750	\$15.00	NO. 5 COARSE AGGREGATE	\$ 11,250.00
CY					
0804 0013		100	\$16.00	SEEDING AND SOIL SUPPLEMENTS - FORMULA D	\$ 1,600.00
LB					
0804 0014		50	\$30.00	SEEDING - FORMULA E	\$ 1,500.00
LB					
0804 0020		250	\$12.00	SEEDING AND SOIL SUPPLEMENTS - FORMULA L	\$ 3,000.00
LB					
0805 0022		3	\$500.00	MULCHING - STRAW	\$ 1,500.00
TON					
0805 0024		1	\$870.00	MULCHING - WOOD FIBER	\$ 870.00
TON					
0806 0050		25,000	\$1.00	EROSION CONTROL MAT	\$ 25,000.00
SY					
0808 7170			\$5.00	SOFT RUSH (PLUG)	
EACH					
0808 7221			\$5.00	WOOLGRASS (PLUG)	
EACH					
0811 0003		250	\$2.75	TEMPORARY PROTECTIVE FENCE	\$ 687.50
LF					
0845 0002		1	\$50,000.00	UNFORESEEN WATER POLLUTION CONTROL	\$ 50,000.00
LS					

SR 95, SECTION BR3					OCTOBER, 2011
ITEM NO.		QUANTITY	UNIT PRICE	DESCRIPTION OF ITEM	TOTALS
0850 0032		5	\$85.00	ROCK, CLASS R-4	\$ 425.00
CY					
0850 0034		2,000	\$60.00	ROCK, CLASS R-6	\$ 120,000.00
LB					
0855 0003		2	\$1,100.00	PUMPED WATER FILTER BAG	\$ 2,200.00
EACH					
0859 0020		1	\$7,000.00	RISER PIPE ASSEMBLY	\$ 7,000.00
LS					
0861 0001		500	\$16.00	CLEANING SEDIMENTATION STRUCTURES	\$ 8,000.00
CY					
0864 0001		150	\$30.00	DIVERSION DITCH	\$ 4,500.00
LF					
0866 0005		2,000	\$10.00	HEAVY DUTY SILT BARRIER FENCE	\$ 20,000.00
LF					
			\$60.00	SEDIMENT BASIN BAFFLE	
LF					
			\$2,200.00	FAIRCLOTH SKIMMER	
EACH					
9859 0001			\$7,500.00	TEMPORARY DEWATERING DEVICE	
EACH					
		15	\$250.00	INLET PROTECTION	\$ 3,750.00
EACH					
		300	\$160.00	SANDBAG COFFERDAM	\$ 48,000.00
LF					
			\$2,600.00	TRASH RACK AND ANTI-VORTEX ASSEMBLY	
EACH					
			\$150.00	SEDIMENT CLEANOUT MARKER	
EACH					
0901 0001		1	\$500,000.00	MAINTENANCE AND PROTECTION OF TRAFFIC DURING CONSTRUCTION	\$ 500,000.00
LS					
0901 0321		117,733	\$0.30	6" STANDARD PAVEMENT MARKINGS, PAINT & BEADS, YELLOW	\$ 35,319.90
LF					
0910 0002		6	\$1,800.00	JUNCTION BOXES J.B.-2	\$ 10,800.00
EACH					
0910 0006		12	\$1,000.00	JUNCTION BOXES J.B.-25	\$ 12,000.00
EACH					
0910 0154		18	\$1,600.00	POLE FOUNDATION, TYPE FC	\$ 28,800.00
EACH					
0910 0242		1	\$2,800.00	STEEL LIGHTING POLE WITH 6-FOOT BRACKET ARM (30-FOOT MOUNTING HEIGHT) TYPE A	\$ 2,800.00
EACH					
0910 0248		1	\$2,900.00	STEEL LIGHTING POLE WITH 12-FOOT BRACKET ARM (30-FOOT MOUNTING HEIGHT) TYPE A	\$ 2,900.00
EACH					
0910 0332		1	\$3,500.00	STEEL LIGHTING POLE WITH 20-FOOT BRACKET ARM (40-FOOT MOUNTING HEIGHT) TYPE A	\$ 3,500.00
EACH					
0910 0333		1	\$3,800.00	STEEL LIGHTING POLE WITH 25-FOOT BRACKET ARM (40-FOOT MOUNTING HEIGHT) TYPE A	\$ 3,800.00
EACH					
0910 0408		8	\$5,000.00	STEEL LIGHTING POLE WITH 12-FOOT BRACKET ARM (50-FOOT MOUNTING HEIGHT) TYPE A	\$ 40,000.00
EACH					

SR 95, SECTION BR3					OCTOBER, 2011
ITEM NO.		QUANTITY	UNIT PRICE	DESCRIPTION OF ITEM	TOTALS
0910 0412		8	\$5,500.00	STEEL LIGHTING POLE WITH 20-FOOT BRACKET ARM (50-FOOT MOUNTING HEIGHT) TYPE A	\$ 44,000.00
EACH					
0910 2826		2	\$500.00	150-WATT HIGH PRESSURE SODIUM LUMINAIRE, ARM MOUNT	\$ 1,000.00
EACH					
0910 2828		2	\$500.00	250-WATT HIGH PRESSURE SODIUM LUMINAIRE, ARM MOUNT	\$ 1,000.00
EACH					
0910 2830		16	\$600.00	400-WATT HIGH PRESSURE SODIUM LUMINAIRE, ARM MOUNT	\$ 9,600.00
EACH					
0910 3072		1	\$950.00	100-WATT HIGH PRESSURE SODIUM LUMINAIRE, OVER-HEAD MOUNT	\$ 950.00
EACH					
0910 4114		24,350	\$2.25	AWG 4 UNDERGROUND CABLE, COPPER, 1 CONDUCTOR	\$ 54,787.50
LF					
0910 5055		3,722	\$3.75	2" DIRECT BURIAL CONDUIT	\$ 13,957.50
LF					
0910 5255		2,908	\$12.00	2" CONDUIT IN STRUCTURE	\$ 34,896.00
LF					
0910 6000		3,722	\$11.00	TRENCH	\$ 40,942.00
LF					
0910 7020		1	\$10,000.00	COMPLETE POWER SUPPLY SYSTEM	\$ 10,000.00
EACH					
0910 7210		1	\$10,000.00	TESTING OF ENTIRE LIGHTING SYSTEM	\$ 10,000.00
LS					
0936 0010		1,803	\$40.00	STRUCTURE MOUNTED FLAT SHEET ALUMINUM SIGNS WITH STIFFENERS	\$ 72,120.00
SF					
0936 0200		456	\$35.00	STRUCTURE MOUNTED FLAT SHEET ALUMINUM SIGNS	\$ 15,960.00
SF					
0964 0005		14,540	\$0.75	6" WHITE EPOXY PAVEMENT MARKINGS	\$ 10,905.00
LF					
0964 0006		7,823	\$0.75	6" YELLOW EPOXY PAVEMENT MARKINGS	\$ 5,867.25
LF					
0964 0008		1,901	\$1.00	8" WHITE EPOXY PAVEMENT MARKINGS	\$ 1,901.00
LF					
0964 0021		630	\$4.50	24" WHITE EPOXY PAVEMENT MARKINGS	\$ 2,835.00
LF					
		1	\$3,464,000.00	STRUCTURE, I-95 OVER FRANKFORD CREEK	\$ 3,464,000.00
LS					
		1	\$18,188,000.00	STRUCTURE, I-95 ORTHODOX AND PEARCE STREET	\$ 18,188,000.00
LS					
			\$9,910,000.00	STRUCTURE, MARGARET STREET	
LS					
		1	\$1,451,000.00	STRUCTURE, WALL C-2	\$ 1,451,000.00
LS					
			\$2,172,000.00	STRUCTURE, WALL D	
LS					
		1	\$4,560,000.00	STRUCTURE, WALL (MARGARET STREET TO TACONY STREET)	\$ 4,560,000.00
LS					
		1	\$5,935,000.00	DEMOLITION OF EXISTING STRUCTURE, I- 95 OVER EARTH FILL	\$ 5,935,000.00
LS					
		1	\$511,000.00	DEMOLITION OF EXISTING STRUCTURE, I- 95 OVER RAMP J	\$ 511,000.00
LS					

SR 95, SECTION BR3					OCTOBER, 2011
ITEM NO.		QUANTITY	UNIT PRICE	DESCRIPTION OF ITEM	TOTALS
		1	\$2,482,000.00	DEMOLITION OF EXISTING STRUCTURE, SB COLLECTOR/DISTRIBUTOR	\$ 2,482,000.00
LS					
		1	\$2,591,000.00	DEMOLITION OF EXISTING STRUCTURE, RAMP K OVER ARAMINGO AVE	\$ 2,591,000.00
LS					
		1	\$1,737,000.00	DEMOLITION OF EXISTING STRUCTURE, RAMP X OVER EARTH FILL	\$ 1,737,000.00
LS					
9005		250	\$40.00	SHEET PILING	\$ 10,000.00
0001					
LF					
Sub-Total SR 95 Roadway Construction					\$ 67,326,739.35
CONTINGENCY = 20%					\$13,465,348
Total SR 95 Roadway Construction					\$80,792,087

Based on WSA Email 2/15/2011

Date:	2/16/2011
Made By:	JAR

Margaret Street Structure

Mechanically Stabilized Earth Walls

	Length (FT)	Average Height (FT)	Maximum Height (FT)	Area (SF)	Estimated Cost (Millions)		MSE wall		T-wall	
					MSE wall	T-wall	Cost per Ft	Cost per SF	Cost per Ft	Cost per SF
Wall 3 SB:	1191	25	37	30,000	\$ 6.13	\$ 6.15	\$ 5,147	\$ 204	\$ 5,164	\$ 205
Wall 4 SB:	453	19	27	8,700	\$ 2.21	\$ 2.25	\$ 4,879	\$ 254	\$ 4,967	\$ 259
Wall 5A SB:	852	19	25	16,100	\$ 3.43	\$ 3.52	\$ 4,026	\$ 213	\$ 4,131	\$ 219
Wall 5B SB:	896	18	25	15,700	\$ 2.60	\$ 2.78	\$ 2,902	\$ 166	\$ 3,103	\$ 177
Wall 6 SB:	739	17	22	12,700	\$ 2.04	\$ 2.21	\$ 2,760	\$ 161	\$ 2,991	\$ 174
Wall 7 SB:	715	10	22	7,100	\$ 1.41	\$ 1.54	\$ 1,972	\$ 199	\$ 2,154	\$ 217
Wall 3B NB:	946	24	29	22,800	\$ 4.20	\$ 4.34	\$ 4,440	\$ 184	\$ 4,588	\$ 190
Wall 4 NB:	475	25	29	12,000	\$ 2.34	\$ 2.38	\$ 4,926	\$ 195	\$ 5,011	\$ 198
Wall 5 NB:	1163	19	24	22,200	\$ 3.94	\$ 4.13	\$ 3,388	\$ 177	\$ 3,551	\$ 186
Wall 6 NB:	739	13	20	9,900	\$ 1.98	\$ 2.12	\$ 2,679	\$ 200	\$ 2,869	\$ 214
Wall 7 NB:	1137	16	23	18,700	\$ 4.09	\$ 4.24	\$ 3,597	\$ 219	\$ 3,729	\$ 227
Wall for BSAR:	346	15	22	5,100	\$ 0.76	\$ 0.83	\$ 2,197	\$ 149	\$ 2,399	\$ 163

Average Cost \$ 3,576 \$ 193 \$ 3,721 \$ 202

Average Cost (FT)	\$	3,649	SAY	\$	3,650 / FT
Average Cost (SF)	\$	198	SAY	\$	200 / SF

Consider BRI:

Consider BRI:	<table><tr><th>Length (FT)</th><th>Average Height (FT)</th><th>Maximum Height (FT)</th><th>Area (SF)</th><th>Cost Based on Length</th><th>Cost Based on Area</th></tr><tr><td>1233</td><td>20</td><td>27</td><td>24,660</td><td>\$ 4.50</td><td>\$ 4.93</td></tr></table>	Length (FT)	Average Height (FT)	Maximum Height (FT)	Area (SF)	Cost Based on Length	Cost Based on Area	1233	20	27	24,660	\$ 4.50	\$ 4.93	
Length (FT)	Average Height (FT)	Maximum Height (FT)	Area (SF)	Cost Based on Length	Cost Based on Area									
1233	20	27	24,660	\$ 4.50	\$ 4.93									
Wall 2 NB (BR2)						USE :								
Sta. 526+08 to Sta. 535+50 RT						\$ 4,700,000 <=====								
Wall 2 SB (BR3)	<table><tr><th>Length (FT)</th><th>Average Height (FT)</th><th>Maximum Height (FT)</th><th>Area (SF)</th><th>Cost Based on Length</th><th>Cost Based on Area</th></tr><tr><td>934</td><td>28</td><td>30</td><td>26,152</td><td>\$ 3.41</td><td>\$ 5.23</td></tr></table>	Length (FT)	Average Height (FT)	Maximum Height (FT)	Area (SF)	Cost Based on Length	Cost Based on Area	934	28	30	26,152	\$ 3.41	\$ 5.23	
Length (FT)	Average Height (FT)	Maximum Height (FT)	Area (SF)	Cost Based on Length	Cost Based on Area									
934	28	30	26,152	\$ 3.41	\$ 5.23									
Sta. 526+28 to Sta. 538+50 LT	Consider Wall 4 NB is about same but half the length So Double \$ 2.4 is \$ 4.8					USE : \$ 4,560,000 <=====								

Consider Wall 4 NB is about same but half the length
So Double \$ 2.4 is \$ 4.8

PENNSYLVANIA DEPARTMENT OF TRANSPORTATION
I-95 SECTION BSR
 CITY OF PHILADELPHIA, PHILADELPHIA COUNTY
 SUMMARY OF ESTIMATED CONSTRUCTION COSTS FOR 2013 TIP UPDATE
 CDM SMITH
 AUGUST 01, 2013

SUMMARY FOR TIP BASED ON 2013 CONSTRUCTION COSTS

PROJECT SECTION	CONSTRUCTION *	CM/CI (8%)	TOTAL
BS1	\$76,600,000	\$6,130,000	\$82,730,000
BS2	\$135,000,000	\$10,800,000	\$145,800,000
BS3	\$25,600,000	\$2,050,000	\$27,650,000
TOTALS	\$237,200,000	\$18,980,000	\$256,180,000

say \$ 83 M
say \$145 M
say \$ 28 M

* Includes a 25% Contingency.

NOTE: ROW and Utility Relocation Costs Are Not Included.

I-95 SECTION BSR
SUMMARY OF ESTIMATED CONSTRUCTION COSTS FOR TIP

SUMMARY FOR TIP BASED ON 2013 CONSTRUCTION		
BS1	\$76,537,797	\$76,600,000
BS2	\$134,990,853	\$135,000,000
BS3	\$25,524,172	\$25,600,000
	\$237,052,822	\$237,200,000

Pennsylvania Department of Transportation, District 6-0
I-95, Section BSR/BRI POA Alternative 3B Northbound(BS1)
Based on Construction Year 2013
Preliminary Construction Cost Estimate for TIP
July 12, 2013

Description	Unit Measure	Quantity	Cost	Price
Roadway Cost POA Alt 3B				
Mainline I-95 Roadway, BS1	LS			\$19,571,488
Structure Cost POA Alt 3B				
I-95 Section BS1 Bridge Total	SF	36700	\$300.00	\$11,010,000
I-95 Section BS1 Retaining Wall Total	SF	60450	\$125.00	\$7,556,250
I-95 Section BS1 Bridge Removal Total	SF	50100	\$25.00	\$1,252,500
I-95 Section BS1 Retaining Wall Demolition Total	SF	23000	\$20.00	\$460,000
SECTION BS1 Drainage Cost	LS			\$1,400,000
SECTION BS1 Maintenance & Protection of Traffic	LS			\$5,400,000
SECTION BS1 "Standard" Construction Items	LS			\$720,000
SECTION BS1 Mobilization	LS			\$3,000,000
SECTION BS1 Highway Lighting	LS			\$900,000
SECTION BS1 Erosion & Sedimentation Control	LS			\$540,000
SECTION BS1 Signing & Pavement Marking / ITS	LS			\$1,420,000
SECTION BS1 Stormwater Management	LS			\$8,000,000
Sub-Total				\$61,230,238
				\$0
Contingency (25%)				\$15,307,559
I-95 Section BS1 Construction Cost Estimate Total (in 2013 dollars)				\$76,537,797

Pennsylvania Department of Transportation, District 6-0
 I-95, Section BSR/BRI POA Alternative 3B South (BS2)
 Based on Construction Year 2013
 Preliminary Construction Cost Estimate for TIP
 July 12, 2013

Description	Unit Measure	Quantity	Cost	Price
Roadway Cost POA Alt 3B				
Mainline I-95 Roadway, BS2	LS			\$13,895,807
Structure Cost POA Alt 3B				
I-95 Section BS2 Bridge Total	SF	169750	\$300.00	\$50,925,000
I-95 Section BS2 Retaining Wall Total	SF	94875	\$125.00	\$11,859,375
I-95 Section BS2 Bridge Removal Total	SF	173400	\$25.00	\$4,335,000
I-95 Section BS2 Retaining Wall Demolition Total	SF	63375	\$20.00	\$1,267,500
SECTION BS2 Drainage Cost	LS			\$1,400,000
SECTION BS2 Maintenance & Protection of Traffic	LS			\$10,080,000
SECTION BS2 "Standard" Construction Items	LS			\$1,350,000
SECTION BS2 Mobilization	LS			\$5,200,000
SECTION BS2 Highway Lighting	LS			\$1,680,000
SECTION BS2 Erosion & Sedimentation Control	LS			\$950,000
SECTION BS2 Signing & Pavement Marking / ITS	LS			\$1,750,000
SECTION BS2 Stormwater Management	LS			\$3,300,000
Sub-Total				\$107,992,682
				\$0
Contingency (25%)				\$26,998,171
I-95 Section BS2 Construction Cost Estimate Total (in 2013 dollars)				\$134,990,853

Pennsylvania Department of Transportation, District 6-0
 I-95, Section BSR/BRI POA Alternative 3B Early Action(BS3)
 Based on Construction Year 2013
 Preliminary Construction Cost Estimate for TIP
 July 12, 2013

Description	Unit Measure	Quantity	Cost	Price
Roadway Cost POA Alt 3B				
Mainline I-95 Roadway, BS3	LS			\$0
Aramingo Ave. Roadway Total	LS			\$6,259,338
H03/Adams Avenue Connector Totals	LS			\$0
Structure Cost POA Alt 3B				
I-95 Section BS3 Bridge Total	SF	0	\$300.00	\$0
I-95 Section BS3 Retaining Wall Total	SF	0	\$125.00	\$0
I-95 Section BS3 Bridge Removal Total	SF	0	\$25.00	\$0
I-95 Section BS3 Retaining Wall Demolition Total	SF	0	\$20.00	\$0
SECTION BS3 Drainage Cost	LS			\$1,300,000
SECTION BS3 Maintenance & Protection of Traffic	LS			\$6,120,000
SECTION BS3 "Standard" Construction Items	LS			\$840,000
SECTION BS3 Mobilization	LS			\$1,000,000
SECTION BS3 Highway Lighting	LS			\$900,000
SECTION BS3 Erosion & Sedimentation Control	LS			\$480,000
SECTION BS3 Signing & Pavement Marking / ITS	LS			\$1,420,000
SECTION BS3 Stormwater Management	LS			\$2,100,000
Sub-Total				\$20,419,338
				\$0
Contingency (25%)				\$5,104,834
I-95 Section BS3 Construction Cost Estimate Total (in 2013 dollars)				\$25,524,172

**I-95 Section BSR
BRIDGE COST ESTIMATE**

Structure	Unit	Unit Cost	Quantity	Cost	
Proposed Structures					
Bridges					
I-95 Over Tacony & Bridge Street Viaduct	SF	\$300.00	149300	\$44,790,000	
NB Ramp over Tacony Street	SF	\$300.00	10250	\$3,075,000	
I-95 over Fraley Street	SF	\$300.00	10200	\$3,060,000	
I-95 over Margaret Street to Orthodox Street	SF	\$300.00	0	\$0	NOW BR3
				\$50,925,000	South (BS2)
I-95 over new SB Ramp (Carver St Relocated)	SF	\$300.00	12100	\$3,630,000	
New SB Ramp over Van Kirk Street	SF	\$300.00	2300	\$690,000	
I-95 over Van Kirk Street	SF	\$300.00	10100	\$3,030,000	
I-95 over Comly Street	SF	\$300.00	12200	\$3,660,000	
			36700	\$11,010,000	North (BS1)

I-95 Section BSR PROPOSED RETAINING WALL COST ESTIMATE						
	Begin STA	End STA	Ave Height	SF	Unit Cost	Wall Cost
Southbound						
	520+25	523+25	24	0	\$125	\$0
	526+00	535+00	30	0	\$125	\$0
						\$0
	538+50	540+00	30	4500	\$125	\$562,500
	546+00	548+00	15	3000	\$125	\$375,000
	550+25	562+25	20	24000	\$125	\$3,000,000
	563+00	568+25	15	7875	\$125	\$984,375
						\$4,921,875
	569+25	573+50	15	6375	\$125	\$796,875
	582+25	584+25	20	4000	\$125	\$500,000
	590+75	599+00	8	6600	\$125	\$825,000
						\$2,121,875
Northbound						
	520+00	523+00	26	0	\$125	\$0
	526+50	535+00	35	0	\$125	\$0
						\$0
	538+50	541+00	35	8750	\$125	\$1,093,750
	550+00	562+25	30	36750	\$125	\$4,593,750
	563+25	568+25	20	10000	\$125	\$1,250,000
						\$6,937,500
	569+25	577+00	10	7750	\$125	\$968,750
	582+00	590+00	12	9600	\$125	\$1,200,000
	590+75	601+00	15	15375	\$125	\$1,921,875
Tacony Ramp						
	862+25	873+00	10	10750	\$125	\$1,343,750
						\$5,434,375

NOW BR3

NOW BR3

NOW BR3

South (BS2)

North(BS1)

NOW BR3

NOW BR3

NOW BR3

South(BS2)

North(BS1)

I-95 Section BSR
BRIDGE REMOVAL COST ESTIMATE

Structure	Unit	Unit Cost	Quantity	Cost	
Proposed Structures					
Bridges					
I-95 Over Margaret Street	SF	\$25.00	0	\$0	NOW BR3
I-95 Over Orthodox Street	SF	\$25.00	0	\$0	
				\$0	NOW BR3
Ramp A	SF	\$25.00	7300	\$182,500	
Ramp D	SF	\$25.00	41000	\$1,025,000	
I-95 over Ramp A	SF	\$25.00	14300	\$357,500	
				\$1,565,000	BS2
I-95 Over Tacony Street and Bridge Street	SF	\$25.00	95000	\$2,375,000	
NB Ramp over Tacony Street	SF	\$25.00	7600	\$190,000	
I-95 over Fraley Street	SF	\$25.00	8200	\$205,000	
				\$2,770,000	South (BS2)
I-95 over Carver	SF	\$25.00	20200	\$505,000	
I-95 over Van Kirk Street	SF	\$25.00	14500	\$362,500	
I-95 over Comly Street	SF	\$25.00	15400	\$385,000	
			50100	\$1,252,500	North (BS1)

I-95 Section BSR**RETAINING WALL REMOVAL COST ESTIMATE**

	Begin STA	End STA	Ave Height	SF	Unit Cost	Wall Cost	
Southbound							
	526+50	533+00	35	0	\$20	\$0	NOW BR3
	552+00	559+00	30	21000	\$20	\$420,000	
	555+00	562+00	15	10500	\$20	\$210,000	
	564+50	569+00	20	9000	\$20	\$180,000	
				40500		\$810,000	South (BS2)
Northbound							
	520+00	523+00	15	0	\$20	\$0	NOW BR3
	550+00	556+75	15	10125	\$20	\$202,500	
	557+50	562+00	15	6750	\$20	\$135,000	
	564+00	568+00	15	6000	\$20	\$120,000	
				22875		\$457,500	South (BS2)
	585+50	589+50	10	4000	\$20	\$80,000	
	591+00	600+50	20	19000	\$20	\$380,000	
				23000		\$460,000	North (BS1)

Location: Tacony Street (BS2)								
Full Depth Reconstruction								
DESCRIPTION								
Sta 1051+00.00 to Sta 1061+46.62	Length	Width	sq.ft.	Sq.yd	Linear Foo	UNIT COST	TOTAL	
Superpave Asphalt Mixture Design, HMA Wearing Course, 2" Depth	1046.62	62	64,890	7210		\$12	\$86,521	
Superpave Asphalt Mixture Design, HMA Binder Course, 2 1/2" Depth	1046.62	62	64,890	7210		\$15	\$108,151	
Plain Cement Concrete Pavement, 8" Depth	1046.62	62	64,890	7210		\$55	\$396,553	
Subbase, 6" Depth (No. 2A)	1046.62	62	64,890	7210		\$13	\$93,731	
8" Plain Cement Concrete Curb	1046.62				2093	\$30	\$62,797	
Cement Concrete Sidewalk (5' each side)	1046.62	10	10,466	1163		\$75	\$87,218	
Class 1 Excavation	1046.62	62	64,890	7210		\$100	\$721,005	
						SUBTOTAL	\$1,555,975	BS2

Location: Tacony Street (BS1)								
Full Depth Reconstruction								
DESCRIPTION								
Sta 1061+46.42 to Sta 1071+56.71	Length	Width	sq.ft.	Sq.yd	Linear Foo	UNIT COST	TOTAL	
Superpave Asphalt Mixture Design, HMA Wearing Course, 2" Depth	1010.29	60	60,617	6735		\$12	\$80,823	
Superpave Asphalt Mixture Design, HMA Binder Course, 2 1/2" Depth	1010.29	60	60,617	6735		\$15	\$101,029	
Plain Cement Concrete Pavement, 8" Depth	1010.29	60	60,617	6735		\$55	\$370,440	
Subbase, 6" Depth (No. 2A)	1010.29	60	60,617	6735		\$13	\$87,558	
8" Plain Cement Concrete Curb	1010.29				2021	\$30	\$60,617	
Cement Concrete Sidewalk (5' each side)	1010.29	5	5,051	561		\$75	\$42,095	
Class1 Excavation	1010.29	60	60,617	6735		\$100	\$673,527	
Sta 1071+56.71 to Sta 1078+00.00								
Superpave Asphalt Mixture Design, HMA Wearing Course, 2" Depth	643.29	48	30,878	3431		\$12	\$41,171	
Superpave Asphalt Mixture Design, HMA Binder Course, 2 1/2" Depth	643.29	48	30,878	3431		\$15	\$51,463	
Plain Cement Concrete Pavement, 8" Depth	643.29	48	30,878	3431		\$55	\$188,698	
Subbase, 6" Depth (No. 2A)	643.29	48	30,878	3431		\$13	\$44,601	
8" Plain Cement Concrete Curb	643.29				1287	\$30	\$38,597	
Cement Concrete Sidewalk (5' each side)	643.29	5	3,216	357		\$75	\$26,804	
Class 1 Excavation	643.29	48	30,878	3431		\$100	\$343,088	
Sta 1078+00.00 to Sta 1088+83.19								
Superpave Asphalt Mixture Design, HMA Wearing Course, 2" Depth	1083.19	60	64,991	7221		\$12	\$86,655	
Superpave Asphalt Mixture Design, HMA Binder Course, 2 1/2" Depth	1083.19	60	64,991	7221		\$15	\$108,319	
Plain Cement Concrete Pavement, 8" Depth	1083.19	60	64,991	7221		\$55	\$397,170	
Subbase, 6" Depth (No. 2A)	1083.19	60	64,991	7221		\$13	\$93,876	
8" Plain Cement Concrete Curb	1083.19				2166	\$30	\$64,991	
Cement Concrete Sidewalk (5' each side)	1083.19	5	5,416	602		\$75	\$45,133	
Class 1 Excavation	1083.19	60	64991	7221		\$100	\$722,127	
						TOTAL	\$3,668,784	BS1

I-95 (BS2)										
DESCRIPTION										
Sta 531+00.00 to Sta 568+00.00	Width	Length	Sq.ft.	Sq.yd	Linear Foot	CY	UNIT COST	TOTAL		
Class 1 Excavation (cut)						35526	\$100	\$ 3,552,600.00		
Class 1 Excavation (Existing Pavement Removal)						35588	\$100	\$ 3,558,800.00		
Concrete Median Barrier		2627					\$80	\$ 210,160.00		
Concrete Shoulders	48	2627	126,096	14011			\$45	\$ 630,480.00		
Treated Permeable Base, 4" Depth	144	2627	378,288	42032			\$20	\$ 840,640.00		
Subbase, 8" Depth (No. 2A)	144	2627	378,288	42032			\$10	\$ 420,320.00		
PCC Pavement RPS, 15" Depth	96	2627	252,192	28021			\$95	\$ 2,662,026.67		
TOTAL								\$ 11,875,026.67	BS2	

I-95 (BS1)										
DESCRIPTION										
Sta 568+00.00 to Sta 614+94.41	Width	Length	Sq.ft.	Sq.yd	Linear Foot	CY	UNIT COST	TOTAL		
Class 1 Excavation (cut)						35526	\$100	\$ 3,552,600.00		
Class 1 Excavation (Existing Pavement Removal)						35588	\$100	\$ 3,558,800.00		
Concrete Median Barrier		4479					\$80	\$ 358,320.00		
Concrete Shoulders	48	4479	214,992	23888			\$45	\$ 1,074,960.00		
Treated Permeable Base, 4" Depth	144	4479	644,976	71664			\$20	\$ 1,433,280.00		
Subbase, 8" Depth (No. 2A)	96	4479	429,984	47776			\$10	\$ 477,760.00		
PCC Pavement RPS, 15" Depth	96	4479	429,984	47776			\$95	\$ 4,538,720.00		
TOTAL								\$ 14,994,440.00	BS1	

Tacony St Decel Ramp (BS1)								
DESCRIPTION								
Sta 850+00.00 to Sta 872+54.64 = 2254.64 ft.	Length	Width	Sq.ft.	Sq.yd	UNIT COST	TOTAL		
Treated Permeable Base, 4" Depth	2255	29	65,395	7266	\$20	\$145,322		
Subbase, 8" Depth (No. 2A)	2255	29	65,395	7266	\$10	\$72,661		
PCC Pavement RPS, 15" Depth	2255	29	65,395	7266	\$95	\$690,281		
					TOTAL	\$908,264	BS1	

Bridge St Accel (BS2)								
DESCRIPTION								
Sta 900+00.00 to Sta 911+53.66 = 1153.66 ft.	Length	Width	Sq.ft.	Sq.yd	UNIT COST	TOTAL		
Treated Permeable Base, 4" Depth	1154	29	33,466	3718	\$20	\$74,369		
Subbase, 8" Depth (No. 2A)	1154	29	33,466	3718	\$10	\$37,184		
PCC Pavement RPS, 15" Depth	1154	29	33,466	3718	\$95	\$353,252		
					TOTAL	\$464,806	BS2	

[illegible]

I-95 Section BSR

Additional Drainage Costs

Item	Unit	Unit Cost	Quantity	Cost
<u>BS1</u>				
Drain Pipe from Basin BS1-1	LF	\$95.00	1160	\$110,200
Drain Pipe to/from Basin BS1-2	LF	\$95.00	1375	\$130,625
Manholes	EA	\$3,800.00	3	\$11,400
Class 1 Excavation	CY	\$100.00	3400	\$340,000
Outfall Structure at River	EA	\$25,000.00	1	\$25,000
Pavement Replacement Under Pipes	SY	\$110.00	1870	\$205,700
				\$822,925
<u>BS2</u>				
Drain Pipe from Basin BS2-1	LF	\$95.00	910	\$86,450
Drain Pipe from Basin BS2-2	LF	\$95.00	200	\$19,000
Manholes	EA	\$3,800.00	2	\$7,600
Class 1 Excavation	CY	\$100.00	1500	\$150,000
Pavement Replacement Under Pipes	SY	\$110.00	980	\$107,800
				\$370,850
<u>BS3</u>				
Drain Pipe from Basin BS3-1	LF	\$95.00	570	\$54,150
Drain Pipe from Basin BS3-2	LF	\$95.00	20	\$1,900
Manholes	EA	\$3,800.00	2	\$7,600
Class 1 Excavation	CY	\$100.00	800	\$80,000
Pavement Replacement Under Pipes	SY	\$110.00	510	\$56,100
				\$199,750

North (BS1)

South (BS2)

(BS3)

I-95 Section BSR
Stormwater Management Costs

Item	Unit	Unit Cost	Quantity	Cost
<u>BS1</u>				
Basin BS1-1	CY	\$100.00	55400	\$5,540,000
Basin BS1-2	CY	\$100.00	23300	\$2,330,000
Geotextile, Class 2, Type A	SY	\$1.70	22875	\$38,888
Basin Outlet Structures	EA	\$6,500.00	2	\$13,000
				\$7,921,888
<u>BS2</u>				
Basin BS2-1	CY	\$100.00	19600	\$1,960,000
Basin BS2-2	CY	\$100.00	12100	\$1,210,000
Geotextile, Class 2, Type A	SY	\$1.70	17030	\$28,951
Basin Outlet Structures	EA	\$6,500.00	2	\$13,000
				\$3,211,951
<u>BS3</u>				
Basin BS3-1	CY	\$100.00	11400	\$1,140,000
Basin BS3-2	CY	\$100.00	8400	\$840,000
Geotextile, Class 2, Type A	SY	\$1.70	8440	\$14,348
Basin Outlet Structures	EA	\$6,500.00	2	\$13,000
				\$2,007,348

North (BS1)

South (BS2)

(BS3)

APPENDIX D. BSR/BRI COST ESTIMATE REVIEW SCHEDULE

BRI-BSR Cost Estimate Review Update

Project Schedule

July 2014

[illegible][illegible]

NOTE: ALL DESIGN STARTS ARE FINAL DESIGN STARTS. ALL PRELIMINARY ENGINEERING/NEPA TASKS COMPLETED BY NOVEMBER 2011